

Virginia Stanford English Language Proficiency (SELP)

Technical Manual

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1. INTRODUCTION TO THE VIRGINIA STANFORD ENGLISH LANGUAGE PROFICIENCY TEST

The Virginia Stanford English Language Proficiency (SELP) Test is a standards-based assessment of English language proficiency for grades K-12. It addresses the unique needs of English Language Learners (ELLs) by modeling best testing practices and critical instructional standards in the areas of listening, speaking, reading, and writing.

The catalog version of the SELP test was first administered in Virginia in the spring of 2004. Teacher feedback determined that the items on the catalog version of the SELP did not meet the level of difficulty needed to determine whether or not a student should be removed from an ELL-based curriculum. In order to meet the rigor of the Virginia standards, augmented reading items were developed for the elementary, middle, and high school levels. In addition to the augmented reading items, the scoring writing rubric was changed to better reflect the educational standards of Virginia. Augmented pre-reading and pre-writing items were also added to the SELP preliteracy test to reflect Virginia standards.

Once the augmented items were developed, an extensive internal review of the items took place. A panel of Virginia teachers convened to study the items and ensure alignment with the Virginia English Language Proficiency (ELP) Standards. They also reviewed items for content and difficulty. A writing review committee met on October 21 and 22, 2004, to review writing rubrics, alignment, and rubric test papers. The committee also reviewed anchor papers to exemplify score points from the rubric. Reading review committees met on November 18, 2004. The committees consisted of panels of ten to fifteen ESL experts from across the Commonwealth of Virginia. Each committee reviewed passages and items for standards alignment, appropriateness for grade level, and bias and sensitivity. Items were accepted, revised, or rejected based on committee recommendations. They were then ready to be placed on the actual tests.

Two Virginia SELP forms were administered during 2005. Form B was the primary form used for English language proficiency assessment at all grade levels and as a proxy for the reading portion of the Virginia Standards of Learning (SOL) at grades three, five, and eight. Form A was used as a special accommodations proxy for the Virginia SOL at grades three, five, and eight. This augmented test is in alignment with the Virginia Standards of learning and is therefore in compliance with the No Child Left Behind Act.

2. STANDARD SETTING

2.1 Introduction

As the contractor for the VA SELP Assessment, Harcourt Assessment organized a performance standard setting meeting. The standard setting sessions for five levels were conducted in Richmond, Virginia, from May 16 – 17, 2005. Agnes Stephenson served as the lead facilitator for the standard setting. Additional content specialists and research analysts were present to facilitate the standard setting sessions and to provide support.

2.2 Proficiency Categories

For the VA SELP Total Composite Score there are three proficiency categories for the Preliteracy level, four proficiency categories for the Primary level and five proficiency categories for the Elementary, Middle Grades, and High School levels. The proficiency categories are:

- Level 1
- Level 2
- Level 3
- Level 4
- Monitor

2.3 Composition of Standard Setting Committees

The training and experience of the standard setting judges helps establish the validity of the judges' ratings (American Educational Research Association, American Psychological Association, and National Council on Measurement in Education, 1999). Although different criteria may be applied in the selection of educators and community representatives, we recommended that all the individuals selected be familiar with ESL and how it is delivered in the classroom. Criteria for teachers recommended to serve on a committee usually include excellence in teaching in ESL where the standards are being set.

Five separate standard setting committees were established. Harcourt Assessment recommended that the Preliteracy, Primary, Elementary, Middle, and High School groups set recommended standards on one grade each, as indicated in Table 2.1 below. The table also shows the number of judges who participated in each of the groups.

Table 2.1: Panel Composition for Standard Setting Committees

Grade	Level	Group	Number of Judges
1	Preliteracy	1	10
2	Primary	2	8
4	Elementary	3	11
7	Middle Grades	4	9
10	High School	5	7

2.4 The Standard Setting Process

Harcourt Assessment recommended a modified-Angoff procedure (Angoff, 1984) for producing the suggested cut scores for the VA SELP. The modified-Angoff procedure conducted in this standard setting is sometimes referred to as the ACT/NAGB standard setting process (Reckase, 2000). This procedure has a long and successful history in similar applications for both educational and professional certification assessments. The modified-Angoff procedure provides a systematic technique for eliciting judgments from panels of experts, producing consensus among these experts, and quantifying the results of the judgments. It is widely recognized as the simplest method to use (Norcini, et al., 1987; Shepard, 1980). Moreover, research has shown that the modified-Angoff method produces ratings with better reliability and smaller variability among the ratings of judges than other standard setting procedures (Andrew and Hecht, 1976; Brennan and Lockwood, 1980; Cross, et al., 1984; Poggio, Glasnapp, and Eros, 1981; Skakun and Kling, 1980). This procedure represents an appropriate balance between statistical rigor and informed opinion.

The standard setting activity for five groups took approximately 15 hours spread across two days. Orientation and initial training took place on the first morning in a large group setting. This meeting was followed by three separate but concurrently run sessions, which contained multiple rounds of ratings, discussion, and feedback.

2.5 Introduction to the Process

The first activity during the standard setting meeting was an orientation of the committee members to the standard setting process. The orientation of judges to the procedures for establishing cut scores for each proficiency level is an important step to ensure the smooth operation of the standard setting. It is likely that most of the panel members are unfamiliar with standard setting, so acquainting them with the expectations for their performance serves to increase their comfort and effectiveness.

At the outset, judges were reminded that their task was to review the items for their respective tests and to estimate the minimal acceptable performance for students at each proficiency level on each item. The orientation concentrated on helping judges become familiar with two substantive aspects of the standard setting procedure. First, the judges were asked to estimate how students who are just at the threshold for each proficiency level should perform, rather than how they do or will perform. This important distinction was emphasized on numerous occasions.

Second, judges were assured that their ratings would remain confidential. The recommended cut points were based on the group's ratings, and individual ratings were not released in the technical documentation. The judges were told to feel free to raise questions during the sessions. Although an important goal of the process is for judges to approach consensus or convergence in ratings, it is integral to the process for judges to maintain a rating that they personally believed was correct, whether or not it was consistent with ratings made by other judges. As Fitzpatrick (1989) noted, preserving the anonymity of judges may make it easier for them to revise an initial item rating after they have learned more about the item, because the judges have not been publicly committed to their initial rating of the item. In contrast, encouraging judges to maintain their initial ratings, if they believe them to be appropriate, may be desirable if it enables judges to resist pressures from other panel members to conform. Fitzpatrick suggests that conformity due to social pressure is not desirable in standard setting. Items with disparate ratings will be discussed in order to educate the judges about other judges' rationales behind their ratings. Any potential effects of undue social pressure will be moderated through the group process skills of the leader of the standard setting.

2.6 Independent Ratings of Each Item

At the beginning of the breakout session, the group facilitator led the panelists in reviewing the previously established definitions of performance levels. They then led the panelists in developing a shared concept of the threshold student at each proficiency level in their respective grade levels. Committee members were then each given a copy of their respective tests and worked individually to answer the items. Once all committee members completed the test, answer keys were provided and the judges scored their tests. Committee members were given sufficient time (approximately 60-90 minutes) to independently rate each item on the test (Round 1). They were encouraged to read each item, consider the skills being assessed and the importance of those skills, think of 100 threshold students (at each proficiency level), and record an estimate of how many, or what percentage, of those 100 threshold students (at each proficiency level) should correctly answer the item. For the multiple-choice items, panelists identified the percentage of threshold students they believed should be able to correctly answer each item. For the open-ended items, panelists identified the average number of rubric points they believed a student at each performance level should score.

Upon completion of the first round of ratings, all secure materials were collected and inventoried before committee members were dismissed from the meeting. During the evening, the individual ratings of the judges were aggregated by the Harcourt Assessment research analysts. Statistics for each judge and for the entire panel were also computed. To obtain an overall estimate of the cut point for each proficiency level from the total group of judges, the initial item ratings provided by the judges were treated as p-values (proportions) and summed across items by level. The result of this summation is a number-correct value for each judge. The number-correct value was then averaged across judges to obtain the judges' estimate of the cut point for each of the proficiency levels.

2.7 Provision and Discussion of Data

The following morning, the judges' rating sheets, test booklets, and handouts were returned to them. On an overhead projector, judges were shown the frequency distributions of their individual item ratings and cut scores, along with the average cut score arrived at by their group. Once discussion of the results of the initial ratings concluded, judges were asked to review the entire set of items that they rated in Round 1, to reconsider these ratings in light of the data they were shown, and to revise any of their ratings, if necessary. The judges' focus was again directed towards thinking about 100 threshold students at each proficiency level and how they should perform on the items. The Round 2 ratings were collected and inventoried along with the secure materials. As with Round 1, the judges' Round 2 ratings were aggregated. Statistics for each judge and for the entire panel were also computed.

2.8 Adjustment of Judges' Cut Scores

The judges' rating sheets, test booklets, and handouts were returned to them. On an overhead projector, judges were shown the frequency distributions of their Round 2 individual item ratings and cut scores, along with the average Round 2 cut score. Judges had the opportunity to alter their estimates of the Round 2 cut point if they felt that their Round 2 cut point was a little too high or low. The judges did not rate individual items in Round 3. The Round 3 cut scores were then collected and tabulated.

This process was repeated for each of the levels so that there were data from each of the judges from their respective groups.

2.9 Post Standard Setting Analyses

The standard setting committees provided cuts on the Total Composite Score in raw score units for grades 1, 2, 4, 7, and 10. After the standard setting meetings, Harcourt Assessment performed several post-standard setting analyses. The first step was to look up the equivalent scale scores corresponding to the raw score cuts recommended by the committees. A quadratic equation was then applied to the scaled cut scores across all 13 grades, K-12. Further analyses were performed to smooth the cuts. Table 2.2 provides the summary statistics for the first round and final round of results on the standard setting for grades 1, 2, 4, 7, and 10. Tables 2.3a and 2.3b provide the VA SELP cut score ranges in scale score for the reporting strands for all grades.

2.10 Proxy Standard Setting Results

The purpose of the Proxy Standard Setting was to determine equivalent cuts on the VA SELP Reading subtest so that it can substitute for the VA SOL English (grade 3) and English: Reading (grades 5 and 8) test. Table 2.4 provides the summary statistics in raw score units for the initial and final ratings on the Proxy Standard Setting committees. The results of the committees were presented to the VA DOE. The final VA SELP Reading proxy cuts in raw score are as follows:

- Grade 3 Elementary: 15
- Grade 5 Elementary: 16
- Grade 8 Middle: 20

Table 2.2: Virginia SELP Standard Setting Summary Results

VASELP	No. of Committee Members	Level 2 Cut Scores		Level 3 Cut Scores		Level 4 Cut Scores		Monitor Cut Scores	
		Initial	Final	Initial	Final	Initial	Final	Initial	Final
Preliteracy	10								
Range		37-58	45-55					65-86	80-88
Mean		46.5	49.4					79.7	84.0
SD		7.2	3.2					6.1	2.6
SE _{Mean}		2.3	1.0					1.9	0.8
Median		46	50					82	84
SE _{Median}		2.8	1.3					2.4	1.0
IQR		9.8	2.5					6.0	1.8
Primary	8								
Range		31-61	53-65	57-81	75-85			84-97	90-98
Mean		48.9	57.3	72.8	79.4			89.5	94.3
SD		9.5	4.5	7.8	2.9			4.8	2.3
SE _{Mean}		3.4	1.6	2.8	1.0			1.7	0.8
Median		50	55	75	80			90	95
SE _{Median}		4.2	2.0	3.5	1.3			2.1	1.0
IQR		5.3	6.0	8.5	2.3			8.3	2.0
Elementary	11								
Range		8-73	45-73	24-83	64-83	56-92	75-93	78-103	90-102
Mean		47.0	52.8	65.3	72.3	83.5	88.5	95.5	97.6
SD		15.9	7.4	15.5	6.0	11.5	5.9	9.3	5.0
SE _{Mean}		4.8	2.2	4.7	1.8	3.5	1.8	2.8	1.5
Median		50	52	66	75	90	92	100	100
SE _{Median}		6.0	2.8	5.9	2.2	4.3	2.2	3.5	1.9
IQR		10.5	4.0	11.0	8.5	12.0	4.5	8.5	5.0
Middle Grades	9								
Range		28-81	38-64	50-102	70-88	77-109	87-99	94-114	99-110
Mean		53.7	49.9	79.1	78.2	95.9	94.2	107.2	106.7
SD		17.4	9.3	15.4	6.9	9.9	5.1	6.2	3.7
SE _{Mean}		5.8	3.1	5.1	2.3	3.3	1.7	2.1	1.2
Median		52	51	83	82	100	96	110	109
SE _{Median}		7.3	3.9	6.4	2.9	4.1	2.1	2.6	1.5
IQR		25	11	20	11	12	9	7	4

VASELP High School	No. of Committee Members	Level 2 Cut Scores		Level 3 Cut Scores		Level 4 Cut Scores		Monitor Cut Scores	
		7							
Range		46-93	64-85	68-106	80-100	87-113	94-108	98-116	105-115
Mean		70.7	70.0	89.1	90.0	102.3	100.0	110.1	109.6
SD		18.9	7.0	15.4	6.8	10.6	5.2	6.4	3.3
SE _{Mean}		7.1	2.7	5.8	2.6	4.0	2.0	2.4	1.3
Median		72	67	96	88	107	100	112	110
SE _{Median}		8.9	3.3	7.3	3.2	5.0	2.4	3.0	1.6
IQR		31	4	25	8	16.5	7	7.5	2.5

Table 2.3a: Scaled Score Cut Ranges, Grades K-5

Strand	Subtest/Grade	K	1	2	3	4	5
1	Listening						
	PL1	<= 485	<= 512	<= 537	<= 558	<= 577	<= 592
	PL2	>= 486	>= 513	538-614	559-620	578-627	593-635
	PL3			>= 615	621-657	628-668	636-678
	PL4				>= 658	>= 669	>= 679
2	Writing Conventions						
	PL1			<= 582	<= 588	<= 595	<= 602
	PL2			583-621	589-623	596-628	603-634
	PL3			>= 622	624-666	629-671	635-677
	PL4				>= 667	>= 672	>= 678
3	Reading						
	PL1			<= 590	<= 602	<= 614	<= 624
	PL2			591-644	603-653	615-661	625-668
	PL3			>= 645	654-687	662-696	669-705
	PL4				>= 688	>= 697	>= 706
5	Speaking						
	PL1	<= 535	<= 545	<= 555	<= 563	<= 571	<= 578
	PL2	>= 536	>= 546	556-606	564-606	572-608	579-611
	PL3			>= 607	607-631	609-636	612-642
	PL4				>= 632	>= 637	>= 643

Strand	Subtest/Grade	K	1	2	3	4	5
10	Comprehension (Listening+Reading or Listening+Prereading)	PL1	<= 509	<= 535	<= 558	<= 579	<= 596
		PL2	>= 510	>= 536	559-629	580-638	597-647
		PL3			>= 630	639-674	648-683
		PL4				>= 675	>= 684
							>= 691
12	Academic (Writing Conventions+Reading+Writing or Prereading+Prewriting)	PL1	<= 554	<= 568	<= 582	<= 594	<= 605
		PL2	555-639	569-642	583-646	595-650	606-655
		PL3			647-684	651-688	656-692
		PL4				689-730	693-731
		Monitor	>= 640	>= 643	>= 685	>= 731	>= 732
							>= 733
13	Total Test	PL1	<= 527	<= 545	<= 561	<= 575	<= 588
		PL2	528-608	546-615	562-622	576-629	589-636
		PL3			623-663	630-668	637-673
		PL4				669-705	674-710
		Monitor	>= 609	>= 616	>= 664	>= 706	>= 711
							>= 716
14	Total Writing (WC Writing)	PL1			<= 587	<= 592	<= 599
		PL2			588-646	593-647	600-648
		PL3			>= 647	648-680	649-687
		PL4				>= 681	>= 688
							>= 694
17	Prereading	PL1	<= 534	<= 564			
		PL2	>= 535	>= 565			
		PL3					
		PL4					
18	Prewriting	PL1	<= 534	<= 562			
		PL2	>= 535	>= 563			
		PL3					
		PL4					

Table 2.3b: Scaled Score Cut Ranges, Grades 6-12

Strand	Subtest/Grade	6	7	8	9	10	11	12
1	Listening							
	PL1	<= 604	<= 614	<= 620	<= 624	<= 624	<= 625	<= 626
	PL2	605-643	615-652	621-662	625-672	625-683	626-695	627-707
	PL3	644-687	653-694	663-701	673-706	684-709	696-712	708-713
	PL4	>= 688	>= 695	>= 702	>= 707	>= 710	>= 713	>= 714
2	Writing Conventions							
	PL1	<= 611	<= 621	<= 631	<= 643	<= 656	<= 669	<= 684
	PL2	612-643	622-654	632-667	644-682	657-699	670-719	685-740
	PL3	644-684	655-693	668-704	683-716	700-730	720-746	741-763
	PL4	>= 685	>= 694	>= 705	>= 717	>= 731	>= 747	>= 764
3	Reading							
	PL1	<= 633	<= 640	<= 646	<= 651	<= 654	<= 656	<= 656
	PL2	634-675	641-682	647-688	652-694	655-700	657-705	657-709
	PL3	676-711	683-716	689-720	695-722	701-722	706-722	710-722
	PL4	>= 712	>= 717	>= 721	>= 723	>= 723	>= 723	>= 723
5	Speaking							
	PL1	<= 584	<= 589	<= 593	<= 597	<= 600	<= 602	<= 603
	PL2	585-615	590-621	594-627	598-635	601-644	603-654	604-666
	PL3	616-647	622-651	628-656	636-660	645-664	655-667	667-670
	PL4	>= 648	>= 652	>= 657	>= 661	>= 665	>= 668	>= 671
10	Comprehension (Listening+Reading or Listening+Prereading)							
	PL1	<= 622	<= 631	<= 637	<= 640	<= 641	<= 641	<= 641
	PL2	623-663	632-671	638-678	641-684	642-691	642-697	642-702
	PL3	664-696	672-702	679-707	685-711	692-714	698-716	703-717
	PL4	>= 697	>= 703	>= 708	>= 712	>= 715	>= 717	>= 718
12	Academic (Writing Conventions+Reading+Writing or Prereading+Prewriting)							
	PL1	<= 625	<= 633	<= 640	<= 646	<= 650	<= 654	<= 657
	PL2	626-666	634-673	641-680	647-688	651-696	655-705	658-715
	PL3	667-701	674-706	681-711	689-717	697-723	706-730	716-737
	PL4	702-734	707-737	712-743	718-751	724-760	731-771	738-784
	Monitor	>= 735	>= 738	>= 744	>= 752	>= 761	>= 772	>= 785

Strand	Subtest/Grade	6	7	8	9	10	11	12
13	Total Test							
	PL1	<= 608	<= 616	<= 622	<= 627	<= 630	<= 631	<= 632
	PL2	609-651	617-658	623-665	628-673	631-680	632-688	633-695
	PL3	652-684	659-690	666-696	674-702	681-708	689-714	696-720
	PL4	685-720	691-725	697-730	703-736	709-741	715-747	721-753
	Monitor	>= 721	>= 726	>= 731	>= 737	>= 742	>= 748	>= 754
14	Total Writing (WC Writing)							
	PL1	<= 613	<= 622	<= 631	<= 641	<= 652	<= 663	<= 675
	PL2	614-657	623-664	632-673	642-685	653-698	664-713	676-730
	PL3	658-700	665-707	674-715	686-722	699-730	714-738	731-746
	PL4	>= 701	>= 708	>= 716	>= 723	>= 731	>= 739	>= 747
17	Prereading							
	PL1							
	PL2							
	PL3							
	PL4							
18	Prewriting							
	PL1							
	PL2							
	PL3							
	PL4							

Table 2.4: Virginia SELP and SOL Proxy Standard Setting Summary
 (Results for Reading Only)

VASELP	No. of Committee Members	Proficient Cut Score Ratings	
		Initial	Final
Grade 3	11		
Range		12-22	14-19
Mean		17.0	17.5
SD		2.9	1.6
SE _{Mean}		0.9	0.5
Median		17	18
SE _{Median}		1.1	0.6
IQR		4.0	2.0
Grade 5	11		
Range		15-23	18-22
Mean		19.3	20.3
SD		2.7	1.3
SE _{Mean}		0.8	0.4
Median		20	20
SE _{Median}		1.0	0.5
IQR		2.5	1.0
Grade 8	9		
Range		26-30	27-29
Mean		27.9	27.7
SD		1.3	0.7
SE _{Mean}		0.4	0.2
Median		28	28
SE _{Median}		0.5	0.3
IQR		2.0	1.0

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3. ITEM-LEVEL STATISTICS

The VA SELP scores are reported as scale scores, but raw score summary statistics can provide an indication of the relative difficulty of the 2005 test form that is not available when examining scale scores. In addition, there are other useful indices available within the framework of classical test theory (CTT) for estimating the precision of the raw test scores and the reliability of the exam. Harcourt Assessment reports the standard error of measurement (a measure of score precision, denoted by σ_E) and the KR20 measure of test reliability.

The p-value is the proportion of students that answer an item correctly. A high p-value means that an item is easy; a low p-value means that an item is difficult. The point biserial correlation is an index of the association between item-score and total-test-score. It shows the ability of the item to discriminate between low ability and high ability students. An item with a high point biserial correlation discriminates the low and the high ability students better than a low point biserial correlation. The value of point biserial correlation between an item score and total score could be somewhat inflated when the item score is included in the calculation of the total score of each examinee. However, as the number of items gets larger, this will hardly be a problem (Crocker & Algina, 1986). The point biserial correlation reported in this report is a “corrected” point biserial correlation. In the “corrected” point biserial correlation calculation, the score of the item of interest does not contribute to the total score; therefore, it avoids the inflation of the point biserial correlation value when the item of interest is included in the total score (Allen & Yen, 1979).

Within CTT, an observed test score is defined as an imprecise estimate of a student’s true (and unobservable) ability level, and is composed of two components. The first component is referred to as “true score” and is the portion of the observed score that is directly dependent on the student’s ability level. The second is an error component (error) and is the portion of the score that is attributable to random error, that is, the portion of the score attributable to factors unrelated to the student’s ability. Error for any student is normally distributed around that student’s true score with a mean of zero and an arbitrary standard deviation. Suppose it were possible to give an exam to one student a large number of times without any practice effects. If we were to examine the resulting distribution of scores we would find a normal distribution with a certain mean and a certain standard deviation about the mean. The mean of the resulting distribution is the student’s true score according to the definition of error given above. For each student who responds to the exam, error is normally distributed with a mean of zero. However, the standard deviation of the error distribution is idiosyncratic to each student (though it tends to be larger toward the low and high ends of the exam for most tests). If we wanted to estimate what would likely be the standard deviation of this distribution of errors for any arbitrary examinee, the best estimate would be the mean of the standard deviations of the error distribution across all examinees. This quantity is called the standard error of measurement (SEM), and is denoted as σ_E . It is defined as:

$$\sigma_E = \sigma_t \sqrt{1 - \rho_t} \quad (1)$$

where σ_t is the standard deviation of the raw scores for the exam and ρ_t is the reliability coefficient for the exam.

The item-level statistics for the operational 2005 VA SELP test on a representative sample using CTT and IRT are presented in Table 3. The table includes the item statistics of p-value and point biserial correlation for all levels by subtests. In addition, the Rasch item difficulty and the standard error of the Rasch difficulty are also shown in Table 3.

Table 3: Item-level Statistics by Levels and Subtests

Preliteracy

	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty	Standard Error of Rasch Diff
Listening	1	MC	1	0.89	0.56	-1.75	0.05
	2	MC	1	0.87	0.57	-1.99	0.05
	3	MC	1	0.95	0.56	-3.55	0.10
	4	MC	1	0.93	0.57	-2.52	0.06
	5	MC	1	0.95	0.59	-3.26	0.08
	6	MC	1	0.39	0.26	1.43	0.02
	7	MC	1	0.95	0.59	-3.26	0.08
	8	MC	1	0.92	0.54	-3.17	0.08
	9	MC	1	0.92	0.60	-3.17	0.08
	10	MC	1	0.95	0.62	-3.26	0.08
	11	MC	1	0.93	0.56	-2.35	0.06
	12	MC	1	0.85	0.49	-1.85	0.05
	13	MC	1	0.63	0.44	0.40	0.03
	14	MC	1	0.71	0.36	0.02	0.03
	15	MC	1	0.18	0.06	3.74	0.04
	16	MC	1	0.90	0.54	-2.05	0.05
	17	MC	1	0.69	0.38	-0.16	0.03
	18	MC	1	0.45	0.31	1.09	0.02
	19	MC	1	0.45	0.21	1.58	0.02
	20	MC	1	0.39	0.26	1.13	0.02
Prereading	1	MC	1	0.94	0.46	-2.50	0.06
	2	MC	1	0.92	0.51	-2.02	0.05
	3	MC	1	0.93	0.55	-2.38	0.06
	4	MC	1	0.84	0.54	-0.92	0.03
	5	MC	1	0.82	0.54	-0.75	0.03
	6	MC	1	0.84	0.50	-0.92	0.03
	7	MC	1	0.71	0.46	0.05	0.03
	8	MC	1	0.49	0.32	1.31	0.02
	9	MC	1	0.90	0.57	-1.63	0.04
	10	MC	1	0.70	0.51	0.18	0.03
	11	MC	1	0.89	0.59	-1.46	0.04
	12	MC	1	0.88	0.59	-1.36	0.04
	13	MC	1	0.69	0.47	0.24	0.03
	14	MC	1	0.61	0.48	0.66	0.03
	15	MC	1	0.68	0.50	0.24	0.03

						Standard Error of Rasch Diff	
Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty		
Prewriting	16	MC	1	0.77	0.54	-0.30	0.03
	17	MC	1	0.76	0.51	-0.23	0.03
	18	MC	1	0.72	0.56	0.04	0.03
	19	MC	1	0.57	0.45	0.88	0.02
	20	MC	1	0.51	0.40	1.20	0.02
	1	MC	1	0.81	0.46	-0.69	0.03
	2	MC	1	0.91	0.53	-1.92	0.05
	3	MC	1	0.83	0.51	-0.87	0.03
	4	MC	1	0.91	0.57	-1.96	0.05
	5	MC	1	0.91	0.54	-1.87	0.05
	6	MC	1	0.94	0.56	-2.71	0.07
	7	MC	1	0.94	0.58	-2.66	0.07
	8	MC	1	0.73	0.53	-0.08	0.03
	9	MC	1	0.60	0.44	0.72	0.03
	10	MC	1	0.71	0.45	0.06	0.03
	11	MC	1	0.79	0.53	-0.52	0.03
	12	MC	1	0.86	0.56	-1.17	0.04
	13	MC	1	0.73	0.55	-0.08	0.03
	14	MC	1	0.74	0.50	-0.16	0.03
	15	MC	1	0.56	0.33	0.90	0.02
	16	MC	1	0.90	0.49	-1.76	0.05
	17	MC	1	0.91	0.50	-1.89	0.05
	18	MC	1	0.81	0.50	-0.64	0.03
	19	MC	1	0.93	0.51	-2.35	0.06
	20	MC	1	0.93	0.50	-2.41	0.06
Speaking	1	SS	2	1.89	0.59	-1.79	0.04
	2	SS	2	1.91	0.58	-1.60	0.03
	3	SS	2	1.88	0.61	-1.51	0.03
	4	SS	2	1.77	0.66	-1.03	0.03
	5	SS	2	1.83	0.64	-0.94	0.03
	6	SS	2	1.60	0.66	-0.48	0.02
	7	SS	2	1.43	0.64	-0.10	0.02
	8	SS	2	1.57	0.63	-0.26	0.02
	9	SS	2	1.25	0.61	0.36	0.02
	10	SS	2	1.56	0.67	-0.08	0.02
	11	SE	4	2.57	0.70	0.58	0.01
	12	SS	2	1.51	0.54	0.29	0.02
	13	SS	2	1.48	0.61	0.22	0.02
	14	SS	2	1.53	0.63	-0.12	0.02
	15	SS	2	1.30	0.60	0.58	0.02
	16	SS	2	1.50	0.63	0.15	0.02

Primary

						Standard Error of Rasch Diff
	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty
Listening	1	MC	1	0.86	0.73	-1.75
	2	MC	1	0.88	0.75	-1.99
	3	MC	1	0.88	0.76	-3.55
	4	MC	1	0.88	0.76	-2.52
	5	MC	1	0.88	0.78	-3.26
	6	MC	1	0.55	0.43	1.43
	7	MC	1	0.88	0.78	-3.26
	8	MC	1	0.87	0.76	-3.17
	9	MC	1	0.88	0.79	-3.17
	10	MC	1	0.88	0.77	-3.26
	11	MC	1	0.88	0.76	-2.35
	12	MC	1	0.85	0.74	-1.85
	13	MC	1	0.74	0.63	0.40
	14	MC	1	0.72	0.55	0.02
	15	MC	1	0.20	0.23	3.74
	16	MC	1	0.87	0.76	-2.05
	17	MC	1	0.77	0.58	-0.16
	18	MC	1	0.60	0.50	1.09
	19	MC	1	0.50	0.32	1.58
	20	MC	1	0.54	0.41	1.13
Writing Conventions	1	MC	1	0.97	0.41	-1.05
	2	MC	1	0.88	0.34	0.73
	3	MC	1	0.97	0.42	-1.51
	4	MC	1	0.82	0.30	0.88
	5	MC	1	0.90	0.27	-0.78
	6	MC	1	0.96	0.42	-0.65
	7	MC	1	0.89	0.35	0.46
	8	MC	1	0.92	0.35	-0.22
	9	MC	1	0.64	0.15	1.18
	10	MC	1	0.85	0.29	0.74
	11	MC	1	0.64	0.14	1.67
	12	MC	1	0.61	0.13	1.15
	13	MC	1	0.37	0.05	1.98
	14	MC	1	0.23	-0.02	2.73
	15	MC	1	0.18	-0.01	2.61
	16	MC	1	0.81	0.24	0.66
	17	MC	1	0.85	0.29	0.67
	18	MC	1	0.90	0.36	0.34
	19	MC	1	0.89	0.39	0.42
	20	MC	1	0.90	0.37	0.60

						Standard Error of Rasch Diff
	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty
Reading	1	MC	1	0.94	0.31	-0.60
	2	MC	1	0.98	0.38	-1.99
	3	MC	1	0.97	0.38	-1.03
	4	MC	1	0.95	0.35	-0.59
	5	MC	1	0.95	0.37	-0.57
	6	MC	1	0.94	0.33	-0.39
	7	MC	1	0.74	0.24	1.16
	8	MC	1	0.90	0.30	0.01
	9	MC	1	0.94	0.34	-0.73
	10	MC	1	0.82	0.25	0.72
	11	MC	1	0.56	0.15	1.83
	12	MC	1	0.85	0.25	0.62
	13	MC	1	0.81	0.26	0.92
	14	MC	1	0.80	0.26	0.86
	15	MC	1	0.28	0.00	2.57
	16	MC	1	0.60	0.16	1.87
	17	MC	1	0.32	0.02	2.80
	18	MC	1	0.50	0.10	2.07
	19	MC	1	0.41	0.07	2.04
	20	MC	1	0.71	0.20	1.37
Writing	1	ER	4	2.25	0.29	1.54
	2	ER	4	2.14	0.30	1.63
Speaking	1	SS	2	1.75	0.78	-1.79
	2	SS	2	1.76	0.78	-1.60
	3	SS	2	1.75	0.79	-1.51
	4	SS	2	1.70	0.81	-1.03
	5	SS	2	1.72	0.80	-0.94
	6	SS	2	1.61	0.81	-0.48
	7	SS	2	1.49	0.78	-0.10
	8	SS	2	1.59	0.81	-0.26
	9	SS	2	1.27	0.72	0.36
	10	SS	2	1.56	0.81	-0.08
	11	SE	4	2.62	0.83	0.58
	12	SS	2	1.50	0.72	0.29
	13	SS	2	1.56	0.76	0.22
	14	SS	2	1.58	0.78	-0.12
	15	SS	2	1.38	0.74	0.58
	16	SS	2	1.53	0.78	0.15

Elementary

	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty	Standard Error of Rasch Diff
Listening	1	MC	1	0.79	0.69	-1.30	0.05
	2	MC	1	0.80	0.74	-2.19	0.08
	3	MC	1	0.72	0.71	0.15	0.03
	4	MC	1	0.79	0.75	-0.86	0.04
	5	MC	1	0.68	0.69	-0.87	0.04
	6	MC	1	0.57	0.63	0.55	0.03
	7	MC	1	0.54	0.56	1.20	0.03
	8	MC	1	0.65	0.65	0.26	0.03
	9	MC	1	0.72	0.72	-0.62	0.04
	10	MC	1	0.67	0.68	0.21	0.03
	11	MC	1	0.70	0.73	-0.43	0.04
	12	MC	1	0.60	0.60	0.76	0.03
	13	MC	1	0.58	0.56	0.80	0.03
	14	MC	1	0.45	0.53	1.74	0.03
	15	MC	1	0.63	0.66	0.24	0.03
	16	MC	1	0.41	0.34	1.57	0.03
	17	MC	1	0.25	0.27	2.41	0.03
	18	MC	1	0.69	0.68	-0.41	0.04
	19	MC	1	0.53	0.51	0.73	0.03
	20	MC	1	0.68	0.69	-0.25	0.04
Writing Conventions	1	MC	1	0.96	0.34	-2.19	0.08
	2	MC	1	0.96	0.35	-1.69	0.06
	3	MC	1	0.95	0.38	-1.34	0.05
	4	MC	1	0.94	0.36	-1.45	0.06
	5	MC	1	0.66	0.13	1.45	0.03
	6	MC	1	0.69	0.22	0.65	0.03
	7	MC	1	0.91	0.33	-0.92	0.05
	8	MC	1	0.89	0.38	-0.19	0.04
	9	MC	1	0.88	0.36	-0.33	0.04
	10	MC	1	0.81	0.26	0.33	0.03
	11	MC	1	0.80	0.25	-0.17	0.04
	12	MC	1	0.75	0.27	0.73	0.03
	13	MC	1	0.57	0.17	1.40	0.03
	14	MC	1	0.83	0.31	-0.44	0.04
	15	MC	1	0.81	0.26	0.05	0.03
	16	MC	1	0.73	0.25	0.83	0.03
	17	MC	1	0.90	0.44	-0.65	0.04
	18	MC	1	0.73	0.19	0.66	0.03
	19	MC	1	0.80	0.29	0.25	0.03
	20	MC	1	0.80	0.23	0.15	0.03

	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty	Standard Error of Rasch Diff
Reading	1	MC	1	0.96	0.32	-1.69	0.06
	2	MC	1	0.96	0.28	-2.08	0.07
	3	MC	1	0.98	0.35	-3.34	0.13
	4	MC	1	0.95	0.32	-1.59	0.06
	5	MC	1	0.97	0.34	-2.45	0.08
	6	MC	1	0.91	0.32	-0.62	0.04
	7	MC	1	0.46	0.16	2.08	0.03
	8	MC	1	0.64	0.17	0.83	0.03
	9	MC	1	0.93	0.37	-0.51	0.04
	10	MC	1	0.84	0.31	0.30	0.03
	11	MC	1	0.86	0.33	0.17	0.03
	12	MC	1	0.71	0.25	1.26	0.03
	13	MC	1	0.68	0.23	1.00	0.03
	14	MC	1	0.74	0.21	0.90	0.03
	15	MC	1	0.38	0.11	2.35	0.03
	16	MC	1	0.53	0.16	2.09	0.03
	17	MC	1	0.61	0.19	1.70	0.03
	18	MC	1	0.58	0.18	1.96	0.03
	19	MC	1	0.43	0.11	2.16	0.03
	20	MC	1	0.54	0.17	2.23	0.03
	21	MC	1	0.79	0.29	0.44	0.03
	22	MC	1	0.69	0.22	1.08	0.03
	23	MC	1	0.77	0.27	0.59	0.03
	24	MC	1	0.72	0.25	0.90	0.03
	25	MC	1	0.27	0.03	3.32	0.03
	26	MC	1	0.54	0.16	1.90	0.03
Writing	1	OE	4	2.35	0.31	1.11	0.02
	2	OE	4	2.34	0.31	1.17	0.02
Speaking	1	SS	2	1.61	0.75	-1.84	0.06
	2	SS	2	1.59	0.77	-1.49	0.05
	3	SS	2	1.54	0.80	-1.49	0.04
	4	SS	2	1.56	0.81	-1.37	0.04
	5	SS	2	1.56	0.80	-1.39	0.04
	6	SS	2	1.37	0.80	-0.30	0.03
	7	SS	2	1.42	0.81	-0.44	0.03
	8	SS	2	1.25	0.78	0.29	0.02
	9	SS	2	1.34	0.78	-0.32	0.03
	10	SS	2	1.35	0.80	-0.05	0.02
	11	SE	4	2.60	0.84	0.35	0.02
	12	SS	2	1.44	0.76	-0.16	0.03
	13	SS	2	1.47	0.79	-0.71	0.03
	14	SS	2	1.38	0.81	-0.03	0.02
	15	SS	2	1.49	0.79	-0.56	0.03
	16	SS	2	1.47	0.79	-0.30	0.03

Middle Grades

						Standard Error of Rasch Diff
	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty
Listening	1	MC	1	0.74	0.71	-3.88
	2	MC	1	0.74	0.72	-3.46
	3	MC	1	0.73	0.72	-3.03
	4	MC	1	0.73	0.72	-1.59
	5	MC	1	0.69	0.75	-0.83
	6	MC	1	0.65	0.77	-0.32
	7	MC	1	0.52	0.64	0.70
	8	MC	1	0.64	0.74	-0.48
	9	MC	1	0.41	0.54	1.26
	10	MC	1	0.30	0.29	1.82
	11	MC	1	0.28	0.39	2.26
	12	MC	1	0.49	0.54	0.94
	13	MC	1	0.50	0.56	0.91
	14	MC	1	0.65	0.71	-0.48
	15	MC	1	0.62	0.66	0.09
	16	MC	1	0.63	0.68	-0.41
	17	MC	1	0.66	0.76	0.03
	18	MC	1	0.66	0.74	-0.46
	19	MC	1	0.69	0.77	-0.93
	20	MC	1	0.34	0.39	1.82
Writing Conventions	1	MC	1	0.97	0.34	-3.29
	2	MC	1	0.93	0.31	-1.10
	3	MC	1	0.96	0.39	-2.40
	4	MC	1	0.96	0.43	-2.14
	5	MC	1	0.93	0.41	-0.50
	6	MC	1	0.87	0.38	0.59
	7	MC	1	0.91	0.39	-0.36
	8	MC	1	0.86	0.33	0.29
	9	MC	1	0.50	0.11	1.60
	10	MC	1	0.74	0.24	1.26
	11	MC	1	0.69	0.18	0.74
	12	MC	1	0.45	0.05	2.65
	13	MC	1	0.67	0.12	1.82
	14	MC	1	0.89	0.37	-0.10
	15	MC	1	0.84	0.32	0.46
	16	MC	1	0.82	0.31	0.80
	17	MC	1	0.76	0.24	1.15
	18	MC	1	0.76	0.21	0.65
	19	MC	1	0.64	0.15	1.43
	20	MC	1	0.88	0.33	0.16
	21	MC	1	0.70	0.22	1.47
	22	MC	1	0.74	0.16	0.44
	23	MC	1	0.56	0.10	1.80
	24	MC	1	0.47	0.12	1.59

						Standard Error of Rasch Diff
	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty
Reading	1	MC	1	0.96	0.39	-3.46
	2	MC	1	0.94	0.38	-1.07
	3	MC	1	0.96	0.34	-2.81
	4	MC	1	0.94	0.37	-0.93
	5	MC	1	0.81	0.24	0.18
	6	MC	1	0.86	0.30	0.24
	7	MC	1	0.84	0.28	0.44
	8	MC	1	0.94	0.39	-0.58
	9	MC	1	0.81	0.31	1.08
	10	MC	1	0.87	0.35	0.13
	11	MC	1	0.77	0.26	0.71
	12	MC	1	0.85	0.21	-0.41
	13	MC	1	0.84	0.25	0.18
	14	MC	1	0.78	0.28	1.21
	15	MC	1	0.68	0.14	0.87
	16	MC	1	0.87	0.29	0.29
	17	MC	1	0.89	0.38	0.53
	18	MC	1	0.83	0.28	0.80
	19	MC	1	0.89	0.36	0.43
	20	MC	1	0.71	0.19	1.40
	21	MC	1	0.82	0.25	0.90
	22	MC	1	0.76	0.23	1.73
	23	MC	1	0.74	0.20	1.28
	24	MC	1	0.83	0.26	0.72
	25	MC	1	0.76	0.23	0.98
	26	MC	1	0.77	0.26	0.90
	27	MC	1	0.55	0.12	2.20
	28	MC	1	0.55	0.13	2.17
	29	MC	1	0.65	0.16	1.66
	30	MC	1	0.44	0.06	2.67
	31	MC	1	0.67	0.18	1.61
	32	MC	1	0.59	0.13	1.91
Writing	1	ER	4	3.06	0.38	0.90
	2	ER	4	2.91	0.37	1.00
Speaking	1	SS	2	1.42	0.76	-1.64
	2	SS	2	1.43	0.76	-1.79
	3	SE	2	1.40	0.78	-1.55
	4	SS	2	1.40	0.79	-1.36
	5	SS	2	1.36	0.80	-1.35
	6	SS	2	1.23	0.79	-0.39
	7	SS	2	1.24	0.81	-0.30
	8	SS	2	1.28	0.82	-0.18
	9	SS	2	1.25	0.82	0.01
	10	SS	2	1.21	0.83	0.16
	11	SE	4	2.41	0.84	0.19

Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty	Standard Error of Rasch Diff
12	SS	2	1.26	0.83	0.35	0.03
13	SS	2	1.30	0.82	-0.39	0.04
14	SS	2	1.30	0.81	-0.18	0.03
15	SS	2	1.28	0.81	-0.15	0.03
16	SS	2	1.32	0.82	-0.15	0.03

High School

	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty	Standard Error of Rasch Diff
Listening	1	MC	1	0.61	0.67	-4.75	0.25
	2	MC	1	0.59	0.67	-2.18	0.08
	3	MC	1	0.58	0.69	-3.51	0.14
	4	MC	1	0.60	0.68	-3.51	0.14
	5	MC	1	0.57	0.69	-2.18	0.08
	6	MC	1	0.30	0.51	1.53	0.03
	7	MC	1	0.17	0.26	2.04	0.03
	8	MC	1	0.32	0.44	1.73	0.03
	9	MC	1	0.28	0.49	1.58	0.03
	10	MC	1	0.28	0.49	1.68	0.03
	11	MC	1	0.36	0.56	1.48	0.03
	12	MC	1	0.38	0.56	0.70	0.04
	13	MC	1	0.44	0.62	0.65	0.04
	14	MC	1	0.49	0.70	-0.43	0.04
	15	MC	1	0.41	0.63	0.33	0.04
	16	MC	1	0.47	0.66	-0.85	0.05
	17	MC	1	0.42	0.59	0.44	0.04
	18	MC	1	0.54	0.70	-0.85	0.05
	19	MC	1	0.31	0.51	1.05	0.03
	20	MC	1	0.44	0.64	0.10	0.04
Writing Conventions	1	MC	1	0.87	0.59	-1.58	0.06
	2	MC	1	0.78	0.47	-0.02	0.04
	3	MC	1	0.89	0.59	-2.89	0.11
	4	MC	1	0.87	0.59	-2.18	0.08
	5	MC	1	0.78	0.46	-0.95	0.05
	6	MC	1	0.17	0.09	3.40	0.04
	7	MC	1	0.74	0.43	0.16	0.04
	8	MC	1	0.45	0.17	1.88	0.03
	9	MC	1	0.49	0.23	1.39	0.03
	10	MC	1	0.32	0.16	2.83	0.04
	11	MC	1	0.50	0.25	0.85	0.04
	12	MC	1	0.69	0.40	0.44	0.04
	13	MC	1	0.37	0.19	2.62	0.04
	14	MC	1	0.49	0.24	1.58	0.03
	15	MC	1	0.54	0.29	1.29	0.03

	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty	Standard Error of Rasch Diff
Reading	16	MC	1	0.50	0.26	1.39	0.03
	17	MC	1	0.68	0.42	0.60	0.04
	18	MC	1	0.70	0.42	0.90	0.04
	19	MC	1	0.74	0.46	-0.08	0.04
	20	MC	1	0.64	0.35	0.85	0.04
	21	MC	1	0.50	0.21	1.63	0.03
	22	MC	1	0.72	0.45	0.39	0.04
	23	MC	1	0.72	0.41	0.10	0.04
	24	MC	1	0.47	0.24	1.99	0.03
	1	MC	1	0.91	0.58	-2.89	0.11
	2	MC	1	0.90	0.58	-2.18	0.08
	3	MC	1	0.91	0.58	-2.89	0.11
	4	MC	1	0.91	0.60	-2.48	0.09
	5	MC	1	0.88	0.55	-2.18	0.08
	6	MC	1	0.84	0.58	-1.05	0.05
	7	MC	1	0.57	0.28	1.58	0.03
	8	MC	1	0.73	0.40	0.65	0.04
	9	MC	1	0.80	0.51	-0.08	0.04
	10	MC	1	0.69	0.35	0.70	0.04
	11	MC	1	0.58	0.28	1.19	0.03
	12	MC	1	0.77	0.46	0.60	0.04
	13	MC	1	0.65	0.29	1.10	0.03
	14	MC	1	0.76	0.43	0.16	0.04
	15	MC	1	0.78	0.49	-0.15	0.04
	16	MC	1	0.65	0.31	1.43	0.03
	17	MC	1	0.79	0.46	0.85	0.04
	18	MC	1	0.49	0.17	2.15	0.03
	19	MC	1	0.60	0.30	0.85	0.04
	20	MC	1	0.71	0.41	0.80	0.04
	21	MC	1	0.83	0.54	0.10	0.04
	22	MC	1	0.79	0.48	0.80	0.04
	23	MC	1	0.37	0.11	2.62	0.04
	24	MC	1	0.69	0.36	1.24	0.03
	25	MC	1	0.58	0.32	1.17	0.03
	26	MC	1	0.48	0.26	1.63	0.03
	27	MC	1	0.55	0.30	1.34	0.03
	28	MC	1	0.37	0.18	2.27	0.04
	29	MC	1	0.62	0.33	1.11	0.03
	30	MC	1	0.46	0.24	1.93	0.03
	31	MC	1	0.62	0.35	0.98	0.04
	32	MC	1	0.42	0.21	2.16	0.03
	33	MC	1	0.64	0.36	0.97	0.04
	34	MC	1	0.58	0.32	1.08	0.03

	Item #	Item Format	Max Points	P-Value	Point Biserial	Rasch Difficulty	Standard Error of Rasch Diff
	1	ER	4	2.47	0.55	0.36	0.02
	2	ER	4	2.49	0.53	0.58	0.02
Speaking	1	SS	2	1.12	0.68	-2.38	0.05
	2	SS	2	1.12	0.69	-2.45	0.06
	3	SE	2	1.10	0.70	-2.67	0.07
	4	SS	2	1.02	0.71	-1.34	0.04
	5	SS	2	1.02	0.72	-2.10	0.04
	6	SS	2	0.87	0.74	-1.06	0.03
	7	SS	2	0.86	0.75	-0.11	0.03
	8	SS	2	0.92	0.75	-0.34	0.03
	9	SS	2	0.85	0.75	0.00	0.03
	10	SS	2	0.97	0.75	-0.68	0.03
	11	SE	4	1.71	0.77	0.07	0.02
	12	SS	2	0.90	0.74	-0.44	0.03
	13	SS	2	0.92	0.75	-0.46	0.03
	14	SS	2	0.93	0.73	-0.49	0.03
	15	SS	2	0.90	0.75	-0.31	0.03
	16	SS	2	0.97	0.75	-0.77	0.03

Allen, M. J., & Yen, W. M. (1979). Introduction to Measurement Theory. Belmont, CA: Wadsworth, Inc.

Crocker, L. M., & Algina, J. (1986). Introduction to Classical and Modern Test Theory. NY: Harcourt Brace Jovanovich College Publishers.

4. CALIBRATION, EQUATING, AND SCALING

The items on the VA SELP test were analyzed within the framework of IRT. IRT is so widely used because of the advantages it confers upon the exam consumers. It promotes equity of results from year to year, through what has been referred to as test-free measurement. Simply stated, test-free measurement means that, given a student's responses to two exams scaled using IRT, that student will achieve the same scale score on both exams except for measurement error. This holds true regardless of differences in the overall difficulties of the exams. In other words, measurement is test-free in the sense that the results are dependent only upon the ability of the student, and are independent of the item difficulties.

The Rasch model (Rasch, 1960) for dichotomous items and the Partial Credit Model (Masters, 1982) for polytomous items were used as the VA SELP's IRT model. The known parameters of the Stanford ELP were fixed at their current values to anchor the scale, and calibrate the augmented VA SELP items to the Stanford ELP vertical scale

The equating was conducted as a part of the item calibration process. Operational item parameters were estimated from a sample of students taking the spring administration of the VA SELP. When a sample of sufficient size was available, and the data files had been prepared for use by Winsteps, the analysis was conducted according to the following procedure. The first step in the process was to check the parameters of the anchor items. After the initial analysis was completed and the anchor sets finalized, the second step in the process was to run a calibration, this time locking the item parameters for the anchor set items to the Stanford ELP values.

Scaling procedure involved linear transformations of the raw score points into scale score. Linear transformation constants, specifically levels and forms equating constants, were utilized in order to maintain a continuous vertical scale.

Tables 4.1 through 4.5 provide the raw-to-scaled score conversion tables for the reporting strands by levels.

Table 4.1: Preliteracy Raw Score to Scale Score Conversion Tables by Strand

Strand 1: Listening

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.73	2.03	319	70.93
1	-5.26	1.05	370	36.92
2	-4.45	0.79	399	27.60
3	-3.92	0.68	417	23.87
4	-3.49	0.63	432	21.96
5	-3.12	0.60	445	20.91
6	-2.77	0.58	458	20.39
7	-2.44	0.58	469	20.23
8	-2.10	0.58	481	20.35
9	-1.76	0.59	493	20.71
10	-1.40	0.61	506	21.27
11	-1.02	0.63	519	21.92
12	-0.61	0.65	533	22.58
13	-0.19	0.66	548	23.15
14	0.26	0.68	564	23.68
15	0.73	0.70	580	24.37
16	1.24	0.73	598	25.55
17	1.81	0.79	618	27.80
18	2.54	0.92	643	32.28
19	3.63	1.21	682	42.23
20	5.38	2.12	743	74.20

Strand 18: Prewriting

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-4.98	2.02	380	70.86
1	-3.52	1.05	431	36.75
2	-2.72	0.78	459	27.29
3	-2.21	0.67	477	23.40
4	-1.80	0.61	491	21.29
5	-1.46	0.57	504	20.01
6	-1.14	0.55	515	19.20
7	-0.85	0.53	525	18.69
8	-0.57	0.53	535	18.39
9	-0.30	0.52	544	18.24
10	-0.03	0.52	554	18.22
11	0.25	0.52	563	18.33
12	0.52	0.53	573	18.57
13	0.81	0.54	583	18.97
14	1.11	0.56	594	19.58
15	1.44	0.59	605	20.48
16	1.80	0.62	618	21.85
17	2.23	0.69	633	24.03
18	2.77	0.80	652	27.93
19	3.60	1.07	681	37.30
20	5.09	2.03	733	71.15

Strand 17: Prereading

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.16	2.03	374	71.16
1	-3.68	1.07	426	37.31
2	-2.84	0.80	455	28.02
3	-2.30	0.69	474	24.20
4	-1.86	0.63	489	22.09
5	-1.49	0.59	502	20.76
6	-1.15	0.57	514	19.86
7	-0.84	0.55	525	19.25
8	-0.55	0.54	535	18.83
9	-0.26	0.53	545	18.57
10	0.02	0.53	555	18.46
11	0.30	0.53	565	18.48
12	0.58	0.53	575	18.64
13	0.87	0.54	585	18.98
14	1.17	0.56	595	19.54
15	1.49	0.58	607	20.41
16	1.85	0.62	619	21.74
17	2.28	0.68	634	23.88
18	2.81	0.79	653	27.76
19	3.63	1.06	682	37.14
20	5.11	2.03	734	71.05

Strand 5: Speaking

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.10	1.99	376	69.73
1	-3.73	0.99	424	34.73
2	-3.05	0.71	448	24.74
3	-2.64	0.59	462	20.52
4	-2.33	0.52	473	18.13
5	-2.09	0.47	481	16.60
6	-1.88	0.44	489	15.54
7	-1.69	0.42	495	14.76
8	-1.52	0.40	501	14.17
9	-1.36	0.39	507	13.71
10	-1.21	0.38	512	13.34
11	-1.07	0.37	517	13.04
12	-0.94	0.37	522	12.79
13	-0.81	0.36	526	12.59
14	-0.68	0.36	531	12.43
15	-0.55	0.35	535	12.31
16	-0.43	0.35	540	12.22
17	-0.31	0.35	544	12.17
18	-0.19	0.35	548	12.16
19	-0.07	0.35	552	12.19
20	0.06	0.35	557	12.27
21	0.18	0.35	561	12.40

22	0.31	0.36	565	12.59
23	0.44	0.37	570	12.84
24	0.58	0.38	575	13.17
25	0.72	0.39	580	13.61
26	0.88	0.40	585	14.16
27	1.05	0.43	591	14.88
28	1.24	0.45	598	15.81
29	1.46	0.49	606	17.07
30	1.72	0.54	615	18.81
31	2.05	0.61	626	21.42
32	2.50	0.74	642	25.84
33	3.24	1.02	668	35.86
34	4.67	2.01	718	70.48

Strand 13: Total Test

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-7.41	2.01	295	70.31
1	-5.99	1.02	345	35.61
2	-5.26	0.73	370	25.60
3	-4.82	0.61	386	21.23
4	-4.50	0.53	397	18.67
5	-4.24	0.48	406	16.94
6	-4.03	0.45	414	15.68
7	-3.84	0.42	420	14.71
8	-3.67	0.40	426	13.93
9	-3.52	0.38	431	13.30
10	-3.38	0.36	436	12.76
11	-3.26	0.35	441	12.30
12	-3.14	0.34	445	11.91
13	-3.02	0.33	449	11.56
14	-2.92	0.32	452	11.25
15	-2.82	0.31	456	10.98
16	-2.72	0.31	459	10.73
17	-2.63	0.30	463	10.51
18	-2.54	0.29	466	10.31
19	-2.45	0.29	469	10.12
20	-2.37	0.28	472	9.95
21	-2.29	0.28	474	9.80
22	-2.22	0.28	477	9.66
23	-2.14	0.27	480	9.53
24	-2.07	0.27	482	9.42
25	-2.00	0.27	485	9.30
26	-1.93	0.26	487	9.21
27	-1.86	0.26	490	9.11
28	-1.79	0.26	492	9.03
29	-1.72	0.26	494	8.95
30	-1.66	0.25	497	8.87
31	-1.60	0.25	499	8.81
32	-1.53	0.25	501	8.74
33	-1.4707	0.2482	503	8.69

34	-1.4095	0.2466	505	8.63
35	-1.349	0.2452	507	8.58
36	-1.2892	0.2439	509	8.54
37	-1.23	0.2427	512	8.49
38	-1.1714	0.2416	514	8.46
39	-1.1132	0.2406	516	8.42
40	-1.0555	0.2397	518	8.39
41	-0.9983	0.2389	520	8.36
42	-0.9414	0.2381	522	8.33
43	-0.8849	0.2374	524	8.31
44	-0.8286	0.2368	526	8.29
45	-0.7727	0.2363	528	8.27
46	-0.7169	0.2359	529	8.26
47	-0.6614	0.2355	531	8.24
48	-0.606	0.2352	533	8.23
49	-0.5507	0.235	535	8.23
50	-0.4955	0.2349	537	8.22
51	-0.4404	0.2348	539	8.22
52	-0.3852	0.2349	541	8.22
53	-0.33	0.2351	543	8.23
54	-0.2747	0.2353	545	8.24
55	-0.2192	0.2357	547	8.25
56	-0.1636	0.2362	549	8.27
57	-0.1077	0.2368	551	8.29
58	-0.0514	0.2375	553	8.31
59	0.0052	0.2384	555	8.34
60	0.0622	0.2394	557	8.38
61	0.1198	0.2405	559	8.42
62	0.1779	0.2418	561	8.46
63	0.2368	0.2433	563	8.52
64	0.2963	0.2449	565	8.57
65	0.3568	0.2468	567	8.64
66	0.4182	0.2489	569	8.71
67	0.4807	0.2511	571	8.79
68	0.5444	0.2537	574	8.88
69	0.6094	0.2564	576	8.97
70	0.676	0.2595	578	9.08
71	0.7442	0.2629	581	9.20
72	0.8143	0.2666	583	9.33
73	0.8864	0.2707	586	9.47
74	0.9609	0.2752	588	9.63
75	1.0381	0.2802	591	9.81
76	1.1181	0.2857	594	10.00
77	1.2015	0.2919	597	10.22
78	1.2886	0.2987	600	10.45
79	1.3801	0.3062	603	10.72
80	1.4764	0.3148	606	11.02
81	1.5785	0.3244	610	11.35
82	1.6872	0.3353	614	11.74
83	1.8038	0.3478	618	12.17
84	1.9297	0.3623	622	12.68
85	2.0671	0.3794	627	13.28

86	2.2187	0.3997	632	13.99
87	2.3882	0.4245	638	14.86
88	2.5814	0.4555	645	15.94
89	2.8069	0.4956	653	17.35
90	3.0789	0.55	662	19.25
91	3.4238	0.6291	674	22.02
92	3.8992	0.7603	691	26.61
93	4.6812	1.0493	718	36.73
94	6.1514	2.0306	770	71.07

Strand 10: Comprehension (Listening+Reading or Listening+Prereading)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-7.05	2.02	308	70.57
1	-5.61	1.03	358	36.15
2	-4.85	0.75	385	26.39
3	-4.38	0.64	401	22.25
4	-4.02	0.57	414	19.88
5	-3.72	0.52	424	18.34
6	-3.46	0.49	433	17.26
7	-3.23	0.47	442	16.46
8	-3.02	0.45	449	15.87
9	-2.82	0.44	456	15.40
10	-2.63	0.43	463	15.04
11	-2.45	0.42	469	14.76
12	-2.27	0.42	475	14.53
13	-2.10	0.41	481	14.36
14	-1.94	0.41	487	14.22
15	-1.77	0.40	493	14.12
16	-1.61	0.40	498	14.04
17	-1.45	0.40	504	13.99
18	-1.29	0.40	509	13.95
19	-1.13	0.40	515	13.94
20	-0.97	0.40	521	13.94
21	-0.81	0.40	526	13.97
22	-0.65	0.40	532	14.00
23	-0.49	0.40	537	14.06
24	-0.33	0.40	543	14.14
25	-0.17	0.41	549	14.25
26	0.00	0.41	555	14.38
27	0.17	0.42	561	14.56
28	0.35	0.42	567	14.77
29	0.53	0.43	573	15.05
30	0.72	0.44	580	15.40
31	0.92	0.45	587	15.84
32	1.13	0.47	594	16.39
33	1.36	0.49	602	17.12
34	1.61	0.52	611	18.07
35	1.89	0.55	621	19.37
36	2.23	0.61	633	21.22
37	2.64	0.69	647	24.02

38	3.20	0.82	667	28.77
39	4.10	1.11	698	38.93
40	5.68	2.07	754	72.46

Strand 12: Academic (Writing Conventions+Reading+Writing or Prereading+Prewriting)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.77	2.01	353	70.49
1	-4.34	1.03	403	35.98
2	-3.59	0.75	429	26.14
3	-3.13	0.63	445	21.93
4	-2.78	0.56	457	19.51
5	-2.49	0.51	467	17.91
6	-2.25	0.48	476	16.78
7	-2.03	0.46	484	15.95
8	-1.83	0.44	490	15.31
9	-1.65	0.42	497	14.80
10	-1.47	0.41	503	14.40
11	-1.31	0.40	509	14.07
12	-1.15	0.39	514	13.80
13	-1.00	0.39	520	13.59
14	-0.85	0.38	525	13.41
15	-0.70	0.38	530	13.27
16	-0.56	0.38	535	13.16
17	-0.42	0.37	540	13.08
18	-0.28	0.37	545	13.02
19	-0.14	0.37	550	12.98
20	0.00	0.37	554	12.97
21	0.13	0.37	559	12.98
22	0.27	0.37	564	13.01
23	0.41	0.37	569	13.07
24	0.55	0.38	574	13.15
25	0.69	0.38	579	13.27
26	0.84	0.38	584	13.41
27	0.99	0.39	589	13.59
28	1.14	0.39	594	13.82
29	1.30	0.40	600	14.11
30	1.46	0.41	606	14.45
31	1.64	0.42	612	14.87
32	1.83	0.44	619	15.40
33	2.03	0.46	626	16.07
34	2.25	0.48	633	16.93
35	2.50	0.52	642	18.07
36	2.79	0.56	652	19.68
37	3.14	0.63	665	22.11
38	3.61	0.75	681	26.32
39	4.37	1.03	708	36.12
40	5.81	2.02	758	70.56

Strand 14: Total Writing

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-4.39	2.02	401	70.85
1	-2.93	1.05	452	36.63
2	-2.14	0.77	480	26.96
3	-1.65	0.65	497	22.81
4	-1.27	0.58	510	20.39
5	-0.96	0.54	521	18.78
6	-0.69	0.50	531	17.64
7	-0.45	0.48	539	16.79
8	-0.22	0.46	547	16.14
9	-0.02	0.45	554	15.66
10	0.18	0.44	561	15.31
11	0.36	0.43	567	15.06
12	0.55	0.43	574	14.91
13	0.73	0.42	580	14.84
14	0.91	0.42	586	14.85
15	1.09	0.43	593	14.93
16	1.27	0.43	599	15.07
17	1.46	0.44	606	15.27
18	1.65	0.44	612	15.53
19	1.85	0.45	620	15.85
20	2.06	0.46	627	16.24
21	2.29	0.48	635	16.75
22	2.52	0.50	643	17.42
23	2.79	0.52	652	18.35
24	3.08	0.56	662	19.75
25	3.43	0.63	675	21.98
26	3.90	0.74	691	26.04
27	4.64	1.02	717	35.79
28	6.06	2.01	767	70.35

Table 4.2: Primary Raw Score to Scale Score Conversion Tables by Strand

Strand 1: Listening

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.73	2.03	319	70.93
1	-5.26	1.05	370	36.92
2	-4.45	0.79	399	27.60
3	-3.92	0.68	417	23.87
4	-3.49	0.63	432	21.96
5	-3.12	0.60	445	20.91
6	-2.77	0.58	458	20.39
7	-2.44	0.58	469	20.23
8	-2.10	0.58	481	20.35
9	-1.76	0.59	493	20.71
10	-1.40	0.61	506	21.27
11	-1.02	0.63	519	21.92
12	-0.61	0.65	533	22.58
13	-0.19	0.66	548	23.15
14	0.26	0.68	564	23.68
15	0.73	0.70	580	24.37
16	1.24	0.73	598	25.55
17	1.81	0.79	618	27.80
18	2.54	0.92	643	32.28
19	3.63	1.21	682	42.23
20	5.38	2.12	743	74.20

Strand 2: Writing Conventions

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-4.29	2.03	404	71.03
1	-2.81	1.06	456	37.02
2	-2.00	0.79	485	27.53
3	-1.48	0.67	503	23.56
4	-1.07	0.61	517	21.30
5	-0.72	0.57	529	19.86
6	-0.42	0.54	540	18.89
7	-0.14	0.52	550	18.22
8	0.13	0.51	559	17.78
9	0.38	0.50	568	17.53
10	0.63	0.50	577	17.44
11	0.88	0.50	585	17.52
12	1.13	0.51	594	17.77
13	1.40	0.52	603	18.21
14	1.68	0.54	613	18.89
15	1.98	0.57	624	19.88
16	2.33	0.61	636	21.35
17	2.74	0.68	650	23.63
18	3.27	0.79	669	27.62
19	4.08	1.06	697	37.10
20	5.56	2.03	749	71.07

Strand 3: Reading

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-4.49	2.04	397	71.27
1	-3.00	1.07	450	37.42
2	-2.16	0.80	479	28.00
3	-1.62	0.69	498	24.08
4	-1.19	0.63	513	21.90
5	-0.82	0.59	526	20.55
6	-0.49	0.56	537	19.67
7	-0.19	0.55	548	19.08
8	0.10	0.53	558	18.70
9	0.39	0.53	568	18.48
10	0.66	0.53	578	18.39
11	0.94	0.53	587	18.43
12	1.22	0.53	597	18.60
13	1.50	0.54	607	18.93
14	1.81	0.56	618	19.47
15	2.13	0.58	629	20.31
16	2.48	0.62	642	21.61
17	2.90	0.68	656	23.73
18	3.43	0.79	675	27.59
19	4.24	1.06	703	37.00
20	5.72	2.03	755	70.97

Strand 5: Speaking

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.10	1.99	376	69.73
1	-3.73	0.99	424	34.73
2	-3.05	0.71	448	24.74
3	-2.64	0.59	462	20.52
4	-2.33	0.52	473	18.13
5	-2.09	0.47	481	16.60
6	-1.88	0.44	489	15.54
7	-1.69	0.42	495	14.76
8	-1.52	0.40	501	14.17
9	-1.36	0.39	507	13.71
10	-1.21	0.38	512	13.34
11	-1.07	0.37	517	13.04
12	-0.94	0.37	522	12.79
13	-0.81	0.36	526	12.59
14	-0.68	0.36	531	12.43
15	-0.55	0.35	535	12.31
16	-0.43	0.35	540	12.22
17	-0.31	0.35	544	12.17
18	-0.19	0.35	548	12.16
19	-0.07	0.35	552	12.19
20	0.06	0.35	557	12.27
21	0.18	0.35	561	12.40

22	0.31	0.36	565	12.59
23	0.44	0.37	570	12.84
24	0.58	0.38	575	13.17
25	0.72	0.39	580	13.61
26	0.88	0.40	585	14.16
27	1.05	0.43	591	14.88
28	1.24	0.45	598	15.81
29	1.46	0.49	606	17.07
30	1.72	0.54	615	18.81
31	2.05	0.61	626	21.42
32	2.50	0.74	642	25.84
33	3.24	1.02	668	35.86
34	4.67	2.01	718	70.48

Strand 10: Comprehension (Listening+Reading or Listening+Prereading)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.84	2.02	315	70.77
1	-5.38	1.04	366	36.55
2	-4.60	0.77	394	26.99
3	-4.10	0.66	411	23.00
4	-3.71	0.59	425	20.77
5	-3.38	0.55	436	19.34
6	-3.09	0.52	446	18.37
7	-2.83	0.50	456	17.66
8	-2.58	0.49	464	17.13
9	-2.35	0.48	472	16.72
10	-2.12	0.47	480	16.39
11	-1.91	0.46	488	16.11
12	-1.70	0.45	495	15.87
13	-1.50	0.45	502	15.67
14	-1.30	0.44	509	15.48
15	-1.10	0.44	516	15.32
16	-0.91	0.43	523	15.17
17	-0.73	0.43	529	15.03
18	-0.55	0.43	535	14.91
19	-0.37	0.42	542	14.81
20	-0.19	0.42	548	14.72
21	-0.01	0.42	554	14.66
22	0.16	0.42	560	14.62
23	0.34	0.42	566	14.61
24	0.51	0.42	573	14.62
25	0.69	0.42	579	14.66
26	0.86	0.42	585	14.74
27	1.04	0.42	591	14.86
28	1.22	0.43	597	15.03
29	1.41	0.44	604	15.26
30	1.61	0.44	611	15.56
31	1.81	0.46	618	15.95
32	2.02	0.47	625	16.45
33	2.25	0.49	633	17.09

34	2.50	0.51	642	17.95
35	2.78	0.55	652	19.10
36	3.10	0.59	663	20.72
37	3.49	0.66	677	23.17
38	4.01	0.78	695	27.36
39	4.81	1.06	723	37.03
40	6.29	2.03	775	71.08

Strand 12: Academic (Writing Conventions+Reading+Writing or Prereading+Prewriting)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.15	2.02	374	70.55
1	-3.72	1.03	424	36.06
2	-2.96	0.75	451	26.19
3	-2.50	0.63	467	21.92
4	-2.15	0.56	479	19.43
5	-1.87	0.51	489	17.76
6	-1.63	0.47	497	16.55
7	-1.42	0.45	505	15.63
8	-1.23	0.43	511	14.90
9	-1.06	0.41	518	14.31
10	-0.90	0.40	523	13.83
11	-0.75	0.38	529	13.42
12	-0.60	0.37	534	13.07
13	-0.47	0.37	538	12.78
14	-0.34	0.36	543	12.53
15	-0.21	0.35	547	12.32
16	-0.09	0.35	552	12.13
17	0.03	0.34	556	11.98
18	0.15	0.34	560	11.85
19	0.26	0.34	564	11.75
20	0.37	0.33	568	11.67
21	0.48	0.33	572	11.61
22	0.59	0.33	575	11.57
23	0.70	0.33	579	11.55
24	0.81	0.33	583	11.55
25	0.92	0.33	587	11.56
26	1.03	0.33	591	11.60
27	1.14	0.33	594	11.64
28	1.25	0.33	598	11.71
29	1.36	0.34	602	11.79
30	1.48	0.34	606	11.89
31	1.59	0.34	610	12.00
32	1.71	0.35	615	12.14
33	1.84	0.35	619	12.29
34	1.96	0.36	623	12.47
35	2.09	0.36	628	12.68
36	2.22	0.37	632	12.93
37	2.36	0.38	637	13.22
38	2.51	0.39	642	13.56
39	2.66	0.40	648	13.99

40	2.83	0.41	654	14.51
41	3.01	0.43	660	15.17
42	3.21	0.46	667	16.04
43	3.43	0.49	675	17.20
44	3.70	0.54	684	18.83
45	4.02	0.61	695	21.32
46	4.46	0.73	711	25.62
47	5.19	1.02	736	35.58
48	6.60	2.01	786	70.29

Strand 13: Total Test

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-7.07	2.01	307	70.48
1	-5.65	1.03	357	35.93
2	-4.90	0.74	383	26.03
3	-4.44	0.62	399	21.73
4	-4.10	0.55	411	19.20
5	-3.83	0.50	421	17.48
6	-3.60	0.46	429	16.21
7	-3.40	0.43	436	15.22
8	-3.22	0.41	442	14.42
9	-3.06	0.39	448	13.75
10	-2.91	0.38	453	13.18
11	-2.77	0.36	458	12.69
12	-2.65	0.35	462	12.26
13	-2.53	0.34	466	11.88
14	-2.41	0.33	470	11.54
15	-2.31	0.32	474	11.23
16	-2.21	0.31	477	10.96
17	-2.11	0.31	481	10.71
18	-2.02	0.30	484	10.49
19	-1.93	0.29	487	10.29
20	-1.85	0.29	490	10.10
21	-1.77	0.28	493	9.94
22	-1.69	0.28	496	9.78
23	-1.61	0.28	498	9.64
24	-1.53	0.27	501	9.51
25	-1.46	0.27	503	9.38
26	-1.39	0.26	506	9.27
27	-1.32	0.26	508	9.17
28	-1.25	0.26	511	9.07
29	-1.19	0.26	513	8.98
30	-1.12	0.25	515	8.89
31	-1.06	0.25	518	8.81
32	-1.00	0.25	520	8.74
33	-0.93	0.25	522	8.66
34	-0.87	0.25	524	8.60
35	-0.81	0.24	526	8.54
36	-0.75	0.24	528	8.48
37	-0.70	0.24	530	8.42
38	-0.64	0.24	532	8.37

39	-0.58	0.24	534	8.33
40	-0.52	0.24	536	8.28
41	-0.47	0.24	538	8.24
42	-0.41	0.23	540	8.21
43	-0.36	0.23	542	8.18
44	-0.30	0.23	544	8.14
45	-0.25	0.23	546	8.12
46	-0.20	0.23	548	8.10
47	-0.14	0.23	550	8.08
48	-0.09	0.23	551	8.06
49	-0.04	0.23	553	8.05
50	0.02	0.23	555	8.05
51	0.07	0.23	557	8.04
52	0.12	0.23	559	8.04
53	0.17	0.23	561	8.04
54	0.23	0.23	563	8.05
55	0.28	0.23	564	8.06
56	0.33	0.23	566	8.07
57	0.39	0.23	568	8.09
58	0.44	0.23	570	8.11
59	0.49	0.23	572	8.14
60	0.55	0.23	574	8.17
61	0.60	0.23	576	8.20
62	0.66	0.24	578	8.23
63	0.71	0.24	580	8.27
64	0.77	0.24	582	8.32
65	0.83	0.24	583	8.37
66	0.88	0.24	586	8.42
67	0.94	0.24	588	8.48
68	1.00	0.24	590	8.54
69	1.06	0.25	592	8.61
70	1.12	0.25	594	8.68
71	1.18	0.25	596	8.75
72	1.25	0.25	598	8.83
73	1.31	0.25	600	8.92
74	1.38	0.26	603	9.01
75	1.44	0.26	605	9.11
76	1.51	0.26	608	9.22
77	1.58	0.27	610	9.33
78	1.65	0.27	612	9.44
79	1.73	0.27	615	9.57
80	1.80	0.28	618	9.71
81	1.88	0.28	620	9.85
82	1.96	0.29	623	10.00
83	2.05	0.29	626	10.17
84	2.13	0.30	629	10.35
85	2.22	0.30	632	10.55
86	2.31	0.31	636	10.76
87	2.41	0.31	639	11.00
88	2.51	0.32	642	11.26
89	2.62	0.33	646	11.55
90	2.73	0.34	650	11.89

91	2.85	0.35	654	12.27
92	2.98	0.36	659	12.71
93	3.11	0.38	664	13.24
94	3.26	0.40	669	13.87
95	3.43	0.42	675	14.64
96	3.61	0.45	681	15.61
97	3.83	0.48	689	16.88
98	4.09	0.53	698	18.62
99	4.41	0.61	709	21.21
100	4.85	0.73	724	25.61
101	5.58	1.02	750	35.65
102	6.99	2.01	799	70.33

Strand 14: Total Writing

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-4.39	2.02	401	70.85
1	-2.93	1.05	452	36.63
2	-2.14	0.77	480	26.96
3	-1.65	0.65	497	22.81
4	-1.27	0.58	510	20.39
5	-0.96	0.54	521	18.78
6	-0.69	0.50	531	17.64
7	-0.45	0.48	539	16.79
8	-0.22	0.46	547	16.14
9	-0.02	0.45	554	15.66
10	0.18	0.44	561	15.31
11	0.36	0.43	567	15.06
12	0.55	0.43	574	14.91
13	0.73	0.42	580	14.84
14	0.91	0.42	586	14.85
15	1.09	0.43	593	14.93
16	1.27	0.43	599	15.07
17	1.46	0.44	606	15.27
18	1.65	0.44	612	15.53
19	1.85	0.45	620	15.85
20	2.06	0.46	627	16.24
21	2.29	0.48	635	16.75
22	2.52	0.50	643	17.42
23	2.79	0.52	652	18.35
24	3.08	0.56	662	19.75
25	3.43	0.63	675	21.98
26	3.90	0.74	691	26.04
27	4.64	1.02	717	35.79
28	6.06	2.01	767	70.35

Table 4.3: Elementary Raw Score to Scale Score Conversion Tables
by Strand

Strand 1: Listening

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-4.74	2.03	429	71.16
1	-3.26	1.06	481	37.18
2	-2.44	0.79	510	27.63
3	-1.91	0.67	528	23.56
4	-1.50	0.61	543	21.26
5	-1.16	0.57	555	19.79
6	-0.86	0.54	565	18.81
7	-0.58	0.52	575	18.15
8	-0.32	0.51	584	17.72
9	-0.06	0.50	593	17.49
10	0.18	0.50	602	17.41
11	0.43	0.50	610	17.49
12	0.69	0.51	619	17.73
13	0.95	0.52	628	18.17
14	1.23	0.54	638	18.82
15	1.53	0.57	649	19.79
16	1.87	0.61	661	21.24
17	2.28	0.67	675	23.51
18	2.80	0.79	693	27.52
19	3.61	1.06	722	37.04
20	5.09	2.03	773	71.05

Strand 2: Writing Conventions

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.00	2.03	420	70.99
1	-3.52	1.06	472	36.94
2	-2.72	0.78	500	27.43
3	-2.20	0.67	518	23.44
4	-1.79	0.61	532	21.18
5	-1.45	0.56	544	19.74
6	-1.15	0.54	555	18.76
7	-0.87	0.52	565	18.08
8	-0.62	0.50	574	17.63
9	-0.37	0.50	582	17.35
10	-0.12	0.49	591	17.23
11	0.12	0.49	599	17.26
12	0.37	0.50	608	17.45
13	0.62	0.51	617	17.82
14	0.89	0.53	626	18.42
15	1.18	0.55	636	19.33
16	1.50	0.59	648	20.72
17	1.89	0.66	661	22.95
18	2.39	0.77	679	26.97
19	3.18	1.04	706	36.55
20	4.63	2.02	757	70.76

Strand 3: Reading

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.54	2.06	401	71.99
1	-3.98	1.11	456	38.78
2	-3.07	0.85	488	29.73
3	-2.44	0.74	510	25.90
4	-1.94	0.68	527	23.65
5	-1.52	0.63	542	22.07
6	-1.14	0.60	555	20.85
7	-0.81	0.57	567	19.83
8	-0.50	0.54	578	18.99
9	-0.21	0.52	588	18.29
10	0.05	0.51	597	17.72
11	0.30	0.49	606	17.27
12	0.54	0.48	614	16.93
13	0.77	0.48	622	16.70
14	0.99	0.47	630	16.57
15	1.22	0.47	638	16.54
16	1.44	0.47	646	16.61
17	1.67	0.48	654	16.80
18	1.90	0.49	662	17.13
19	2.15	0.50	670	17.62
20	2.41	0.52	680	18.33
21	2.70	0.55	690	19.36
22	3.03	0.60	701	20.87
23	3.42	0.66	715	23.24
24	3.94	0.78	733	27.38
25	4.75	1.06	761	37.03
26	6.23	2.03	813	71.10

Strand 5: Speaking

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.27	2.00	411	69.85
1	-3.89	1.00	459	34.83
2	-3.20	0.71	483	24.73
3	-2.79	0.58	497	20.40
4	-2.50	0.51	508	17.94
5	-2.26	0.47	516	16.34
6	-2.06	0.43	523	15.22
7	-1.88	0.41	530	14.40
8	-1.72	0.39	535	13.77
9	-1.57	0.38	540	13.29
10	-1.43	0.37	545	12.90
11	-1.29	0.36	550	12.59
12	-1.17	0.35	554	12.33
13	-1.05	0.35	559	12.13

14	-0.93	0.34	563	11.98
15	-0.81	0.34	567	11.87
16	-0.70	0.34	571	11.80
17	-0.58	0.34	575	11.77
18	-0.47	0.34	579	11.78
19	-0.36	0.34	583	11.84
20	-0.24	0.34	587	11.95
21	-0.12	0.35	591	12.12
22	0.00	0.35	595	12.34
23	0.13	0.36	600	12.65
24	0.26	0.37	604	13.03
25	0.40	0.39	609	13.52
26	0.56	0.40	615	14.13
27	0.73	0.43	621	14.91
28	0.93	0.45	628	15.91
29	1.15	0.49	635	17.22
30	1.42	0.54	645	19.03
31	1.75	0.62	656	21.69
32	2.21	0.75	673	26.14
33	2.97	1.03	699	36.17
34	4.41	2.02	749	70.67

Strand 10: Comprehension (Listening+Reading or Listening+Prereading)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.93	2.03	388	71.06
1	-4.46	1.06	439	36.96
2	-3.65	0.78	467	27.27
3	-3.15	0.66	485	23.06
4	-2.76	0.59	499	20.57
5	-2.44	0.54	510	18.88
6	-2.17	0.50	519	17.64
7	-1.93	0.48	528	16.69
8	-1.72	0.45	535	15.92
9	-1.52	0.44	542	15.30
10	-1.33	0.42	549	14.77
11	-1.16	0.41	555	14.33
12	-1.00	0.40	560	13.95
13	-0.84	0.39	566	13.62
14	-0.69	0.38	571	13.34
15	-0.55	0.37	576	13.10
16	-0.41	0.37	581	12.90
17	-0.28	0.36	585	12.72
18	-0.15	0.36	590	12.57
19	-0.02	0.36	595	12.45
20	0.11	0.35	599	12.35
21	0.23	0.35	603	12.27
22	0.35	0.35	607	12.21
23	0.47	0.35	612	12.18
24	0.59	0.35	616	12.16
25	0.71	0.35	620	12.16

26	0.83	0.35	624	12.19
27	0.96	0.35	629	12.23
28	1.08	0.35	633	12.30
29	1.20	0.35	637	12.39
30	1.33	0.36	642	12.51
31	1.46	0.36	646	12.65
32	1.59	0.37	651	12.83
33	1.73	0.37	656	13.04
34	1.87	0.38	661	13.30
35	2.02	0.39	666	13.62
36	2.17	0.40	671	13.99
37	2.34	0.41	677	14.45
38	2.52	0.43	683	15.01
39	2.71	0.45	690	15.72
40	2.92	0.47	697	16.61
41	3.16	0.51	706	17.81
42	3.44	0.56	716	19.47
43	3.79	0.63	728	21.96
44	4.26	0.75	744	26.24
45	5.01	1.03	771	36.10
46	6.45	2.02	821	70.57

Strand 12: Academic (Writing Conventions+Reading+Writing or Prereading+Prewriting)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.07	2.02	383	70.83
1	-4.61	1.04	434	36.54
2	-3.83	0.76	461	26.71
3	-3.35	0.64	478	22.41
4	-2.99	0.57	491	19.85
5	-2.70	0.52	501	18.11
6	-2.45	0.48	510	16.82
7	-2.23	0.45	517	15.84
8	-2.04	0.43	524	15.05
9	-1.86	0.41	530	14.41
10	-1.70	0.40	536	13.88
11	-1.54	0.38	541	13.45
12	-1.40	0.37	546	13.08
13	-1.26	0.37	551	12.78
14	-1.13	0.36	556	12.53
15	-1.01	0.35	560	12.32
16	-0.88	0.35	564	12.15
17	-0.76	0.34	568	12.02
18	-0.65	0.34	573	11.90
19	-0.53	0.34	577	11.81
20	-0.42	0.34	580	11.74
21	-0.31	0.33	584	11.68
22	-0.20	0.33	588	11.63
23	-0.09	0.33	592	11.60
24	0.02	0.33	596	11.58
25	0.13	0.33	600	11.57

26	0.24	0.33	604	11.57
27	0.35	0.33	607	11.57
28	0.46	0.33	611	11.59
29	0.57	0.33	615	11.62
30	0.68	0.33	619	11.66
31	0.79	0.33	623	11.71
32	0.90	0.34	627	11.78
33	1.02	0.34	631	11.86
34	1.13	0.34	635	11.95
35	1.25	0.34	639	12.06
36	1.37	0.35	643	12.20
37	1.49	0.35	648	12.35
38	1.62	0.36	652	12.53
39	1.75	0.36	657	12.75
40	1.89	0.37	661	12.99
41	2.03	0.38	666	13.28
42	2.17	0.39	671	13.62
43	2.33	0.40	677	14.02
44	2.50	0.41	683	14.49
45	2.67	0.43	689	15.07
46	2.87	0.45	696	15.76
47	3.08	0.47	703	16.61
48	3.32	0.51	711	17.69
49	3.60	0.55	721	19.08
50	3.92	0.60	732	20.93
51	4.32	0.67	747	23.59
52	4.86	0.80	765	27.92
53	5.70	1.07	795	37.57
54	7.20	2.04	847	71.40

Strand 13: Total Test

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.62	2.01	364	70.30
1	-5.21	1.02	413	35.56
2	-4.48	0.73	438	25.47
3	-4.05	0.60	454	21.01
4	-3.73	0.52	464	18.36
5	-3.49	0.47	473	16.56
6	-3.28	0.44	480	15.23
7	-3.11	0.41	487	14.19
8	-2.95	0.38	492	13.36
9	-2.81	0.36	497	12.68
10	-2.69	0.35	501	12.11
11	-2.57	0.33	505	11.62
12	-2.47	0.32	509	11.20
13	-2.37	0.31	512	10.83
14	-2.27	0.30	516	10.51
15	-2.19	0.29	519	10.22
16	-2.10	0.28	522	9.97
17	-2.02	0.28	524	9.74
18	-1.95	0.27	527	9.53

19	-1.88	0.27	530	9.35
20	-1.81	0.26	532	9.18
21	-1.74	0.26	534	9.02
22	-1.67	0.25	537	8.88
23	-1.61	0.25	539	8.75
24	-1.55	0.25	541	8.63
25	-1.49	0.24	543	8.53
26	-1.43	0.24	545	8.42
27	-1.37	0.24	547	8.33
28	-1.32	0.24	549	8.25
29	-1.26	0.23	551	8.17
30	-1.21	0.23	553	8.10
31	-1.15	0.23	555	8.03
32	-1.10	0.23	557	7.97
33	-1.05	0.23	558	7.91
34	-1.00	0.22	560	7.86
35	-0.95	0.22	562	7.82
36	-0.90	0.22	564	7.77
37	-0.85	0.22	565	7.73
38	-0.80	0.22	567	7.70
39	-0.75	0.22	569	7.67
40	-0.71	0.22	571	7.64
41	-0.66	0.22	572	7.61
42	-0.61	0.22	574	7.59
43	-0.56	0.22	575	7.57
44	-0.52	0.22	577	7.56
45	-0.47	0.22	579	7.55
46	-0.42	0.22	580	7.54
47	-0.38	0.22	582	7.54
48	-0.33	0.22	584	7.53
49	-0.29	0.22	585	7.53
50	-0.24	0.22	587	7.54
51	-0.19	0.22	588	7.54
52	-0.15	0.22	590	7.55
53	-0.10	0.22	592	7.56
54	-0.05	0.22	593	7.58
55	-0.01	0.22	595	7.60
56	0.04	0.22	597	7.62
57	0.09	0.22	598	7.64
58	0.14	0.22	600	7.67
59	0.19	0.22	602	7.69
60	0.23	0.22	603	7.72
61	0.28	0.22	605	7.76
62	0.33	0.22	607	7.79
63	0.38	0.22	609	7.83
64	0.43	0.23	610	7.88
65	0.48	0.23	612	7.92
66	0.53	0.23	614	7.97
67	0.59	0.23	616	8.02
68	0.64	0.23	618	8.07
69	0.69	0.23	619	8.12
70	0.75	0.23	621	8.18
71	0.80	0.24	623	8.24
72	0.86	0.24	625	8.31

73	0.91	0.24	627	8.38
74	0.97	0.24	629	8.45
75	1.03	0.24	631	8.53
76	1.09	0.25	633	8.61
77	1.15	0.25	636	8.69
78	1.21	0.25	638	8.78
79	1.28	0.25	640	8.88
80	1.34	0.26	642	8.98
81	1.41	0.26	645	9.09
82	1.48	0.26	647	9.20
83	1.55	0.27	649	9.32
84	1.62	0.27	652	9.45
85	1.69	0.27	655	9.59
86	1.77	0.28	657	9.74
87	1.85	0.28	660	9.90
88	1.93	0.29	663	10.08
89	2.02	0.29	666	10.27
90	2.10	0.30	669	10.48
91	2.19	0.31	672	10.70
92	2.29	0.31	675	10.96
93	2.39	0.32	679	11.24
94	2.50	0.33	683	11.55
95	2.61	0.34	687	11.89
96	2.73	0.35	691	12.29
97	2.86	0.36	695	12.74
98	2.99	0.38	700	13.27
99	3.14	0.40	705	13.88
100	3.31	0.42	711	14.61
101	3.49	0.44	717	15.49
102	3.70	0.47	725	16.58
103	3.95	0.51	733	17.98
104	4.24	0.57	744	19.85
105	4.60	0.64	756	22.54
106	5.09	0.77	774	26.97
107	5.89	1.05	801	36.83
108	7.36	2.03	853	71.03

Strand 14: Total Writing

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.13	2.02	416	70.68
1	-3.69	1.04	466	36.28
2	-2.92	0.76	493	26.43
3	-2.45	0.63	510	22.16
4	-2.09	0.56	522	19.69
5	-1.80	0.52	532	18.09
6	-1.55	0.49	541	16.99
7	-1.33	0.46	549	16.23
8	-1.12	0.45	556	15.71
9	-0.92	0.44	563	15.37
10	-0.73	0.43	570	15.17
11	-0.55	0.43	576	15.08
12	-0.36	0.43	583	15.09

13	-0.17	0.43	589	15.17
14	0.02	0.44	596	15.31
15	0.21	0.44	603	15.52
16	0.41	0.45	610	15.80
17	0.62	0.46	617	16.15
18	0.84	0.47	624	16.59
19	1.07	0.49	633	17.14
20	1.32	0.51	641	17.86
21	1.59	0.54	651	18.78
22	1.90	0.57	662	20.02
23	2.25	0.62	674	21.71
24	2.68	0.69	689	24.13
25	3.22	0.79	708	27.62
26	3.96	0.93	734	32.61
27	5.04	1.18	772	41.38
28	6.72	2.09	830	73.17

Table 4.4: Middle Grades Raw Score to Scale Score Conversion Tables by Strand

Strand 1: Listening

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.12	2.06	401	72.27
1	-4.53	1.13	457	39.60
2	-3.55	0.89	491	31.12
3	-2.86	0.78	516	27.37
4	-2.31	0.71	535	24.78
5	-1.85	0.65	551	22.79
6	-1.45	0.61	565	21.30
7	-1.10	0.58	577	20.24
8	-0.78	0.56	588	19.51
9	-0.48	0.54	599	19.06
10	-0.18	0.54	609	18.83
11	0.10	0.54	619	18.81
12	0.39	0.54	630	18.96
13	0.69	0.55	640	19.31
14	1.01	0.57	651	19.89
15	1.34	0.59	663	20.76
16	1.71	0.63	676	22.07
17	2.15	0.69	691	24.19
18	2.70	0.80	710	28.01
19	3.53	1.07	739	37.31
20	5.02	2.03	791	71.16

Strand 2: Writing Conventions

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.42	2.06	426	72.21
1	-3.84	1.12	481	39.16
2	-2.91	0.86	514	30.03
3	-2.28	0.74	536	25.91
4	-1.78	0.67	553	23.29
5	-1.38	0.61	568	21.39
6	-1.03	0.57	580	19.96
7	-0.72	0.54	590	18.87
8	-0.45	0.52	600	18.04
9	-0.19	0.50	609	17.41
10	0.05	0.48	618	16.95
11	0.28	0.48	626	16.63
12	0.50	0.47	633	16.43
13	0.72	0.47	641	16.35
14	0.94	0.47	649	16.39
15	1.16	0.47	656	16.55
16	1.39	0.48	664	16.85
17	1.63	0.49	673	17.31
18	1.88	0.51	682	18.00

19	2.16	0.54	691	18.99
20	2.48	0.58	702	20.46
21	2.85	0.65	716	22.76
22	3.35	0.77	733	26.85
23	4.13	1.04	760	36.51
24	5.58	2.02	811	70.77

Strand 3: Reading

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.53	2.07	422	72.43
1	-3.93	1.13	478	39.52
2	-2.98	0.86	511	30.06
3	-2.36	0.73	533	25.40
4	-1.90	0.64	549	22.37
5	-1.53	0.58	562	20.24
6	-1.22	0.53	573	18.69
7	-0.96	0.50	582	17.53
8	-0.72	0.48	591	16.64
9	-0.50	0.46	598	15.94
10	-0.30	0.44	605	15.40
11	-0.11	0.43	612	14.98
12	0.06	0.42	618	14.64
13	0.24	0.41	624	14.40
14	0.40	0.41	630	14.21
15	0.57	0.40	636	14.09
16	0.73	0.40	641	14.04
17	0.89	0.40	647	14.03
18	1.05	0.40	652	14.08
19	1.21	0.41	658	14.18
20	1.38	0.41	664	14.35
21	1.55	0.42	670	14.58
22	1.73	0.43	676	14.88
23	1.91	0.44	683	15.28
24	2.11	0.45	690	15.79
25	2.32	0.47	697	16.44
26	2.55	0.49	705	17.28
27	2.81	0.53	714	18.42
28	3.11	0.57	725	20.02
29	3.48	0.64	737	22.44
30	3.96	0.76	754	26.61
31	4.73	1.04	781	36.36
32	6.18	2.02	832	70.70

Strand 5: Speaking

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.52	2.01	423	70.29
1	-4.11	1.02	472	35.63
2	-3.38	0.73	498	25.68
3	-2.93	0.61	513	21.38
4	-2.60	0.54	525	18.91
5	-2.34	0.49	534	17.27
6	-2.11	0.46	542	16.11
7	-1.91	0.44	549	15.23
8	-1.73	0.42	555	14.55
9	-1.56	0.40	561	14.00
10	-1.41	0.39	566	13.56
11	-1.26	0.38	572	13.20
12	-1.12	0.37	576	12.90
13	-0.99	0.36	581	12.66
14	-0.86	0.36	586	12.48
15	-0.73	0.35	590	12.34
16	-0.61	0.35	594	12.24
17	-0.49	0.35	599	12.20
18	-0.37	0.35	603	12.19
19	-0.25	0.35	607	12.24
20	-0.12	0.35	611	12.33
21	0.00	0.36	616	12.47
22	0.13	0.36	620	12.68
23	0.26	0.37	625	12.95
24	0.41	0.38	630	13.30
25	0.55	0.39	635	13.75
26	0.71	0.41	641	14.32
27	0.89	0.43	647	15.04
28	1.09	0.46	654	15.98
29	1.31	0.49	662	17.22
30	1.58	0.54	671	18.96
31	1.91	0.62	683	21.54
32	2.36	0.74	698	25.91
33	3.10	1.03	724	35.91
34	4.53	2.01	774	70.49

Strand 10: Comprehension (Listening+Reading or Listening+Prereading)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.60	2.04	385	71.24
1	-5.10	1.07	437	37.45
2	-4.26	0.80	467	28.15
3	-3.71	0.69	486	24.21
4	-3.28	0.62	501	21.85
5	-2.92	0.58	513	20.15
6	-2.61	0.54	524	18.80
7	-2.34	0.51	534	17.68

8	-2.10	0.48	542	16.73
9	-1.88	0.45	550	15.91
10	-1.69	0.43	557	15.21
11	-1.51	0.42	563	14.61
12	-1.34	0.40	569	14.09
13	-1.18	0.39	574	13.64
14	-1.03	0.38	580	13.25
15	-0.89	0.37	584	12.92
16	-0.76	0.36	589	12.63
17	-0.63	0.35	594	12.38
18	-0.51	0.35	598	12.16
19	-0.39	0.34	602	11.98
20	-0.28	0.34	606	11.82
21	-0.16	0.33	610	11.68
22	-0.05	0.33	614	11.56
23	0.06	0.33	618	11.47
24	0.16	0.33	621	11.39
25	0.27	0.32	625	11.33
26	0.37	0.32	629	11.29
27	0.48	0.32	632	11.26
28	0.58	0.32	636	11.25
29	0.68	0.32	640	11.26
30	0.79	0.32	643	11.28
31	0.89	0.32	647	11.32
32	1.00	0.33	651	11.38
33	1.10	0.33	654	11.46
34	1.21	0.33	658	11.55
35	1.32	0.33	662	11.67
36	1.43	0.34	666	11.81
37	1.55	0.34	670	11.98
38	1.67	0.35	674	12.18
39	1.79	0.35	678	12.42
40	1.92	0.36	683	12.70
41	2.05	0.37	688	13.03
42	2.20	0.38	693	13.43
43	2.35	0.40	698	13.90
44	2.51	0.41	704	14.48
45	2.69	0.43	710	15.20
46	2.89	0.46	717	16.12
47	3.12	0.50	725	17.33
48	3.39	0.54	734	19.01
49	3.72	0.61	746	21.51
50	4.17	0.74	762	25.83
51	4.91	1.02	788	35.77
52	6.33	2.01	837	70.37

Strand 12: Academic (Writing Conventions+Reading+Writing or Prereading+Prewriting)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.23	2.03	398	71.13
1	-4.74	1.06	450	37.18
2	-3.92	0.79	478	27.65
3	-3.40	0.67	497	23.49
4	-3.00	0.60	511	20.97
5	-2.67	0.55	522	19.17
6	-2.39	0.51	532	17.78
7	-2.15	0.48	541	16.65
8	-1.94	0.45	548	15.71
9	-1.74	0.43	555	14.91
10	-1.57	0.41	561	14.23
11	-1.41	0.39	566	13.64
12	-1.27	0.37	571	13.12
13	-1.13	0.36	576	12.67
14	-1.00	0.35	581	12.28
15	-0.89	0.34	585	11.94
16	-0.77	0.33	589	11.63
17	-0.66	0.32	593	11.37
18	-0.56	0.32	596	11.13
19	-0.46	0.31	600	10.93
20	-0.37	0.31	603	10.75
21	-0.27	0.30	606	10.59
22	-0.18	0.30	609	10.45
23	-0.09	0.30	612	10.33
24	-0.01	0.29	615	10.23
25	0.08	0.29	618	10.14
26	0.16	0.29	621	10.07
27	0.24	0.29	624	10.01
28	0.32	0.28	627	9.95
29	0.40	0.28	630	9.91
30	0.48	0.28	633	9.88
31	0.56	0.28	635	9.86
32	0.64	0.28	638	9.85
33	0.72	0.28	641	9.84
34	0.80	0.28	644	9.85
35	0.88	0.28	647	9.86
36	0.96	0.28	649	9.87
37	1.04	0.28	652	9.90
38	1.12	0.28	655	9.94
39	1.20	0.29	658	9.98
40	1.28	0.29	661	10.03
41	1.37	0.29	664	10.10
42	1.45	0.29	666	10.17
43	1.53	0.29	669	10.26
44	1.62	0.30	672	10.36
45	1.71	0.30	676	10.47
46	1.80	0.30	679	10.60
47	1.89	0.31	682	10.75
48	1.99	0.31	685	10.92
49	2.09	0.32	689	11.12
50	2.19	0.32	692	11.34

51	2.30	0.33	696	11.61
52	2.41	0.34	700	11.91
53	2.53	0.35	704	12.27
54	2.66	0.36	709	12.69
55	2.79	0.38	714	13.20
56	2.94	0.39	719	13.81
57	3.11	0.42	724	14.56
58	3.29	0.44	731	15.52
59	3.50	0.48	738	16.78
60	3.76	0.53	747	18.50
61	4.07	0.60	758	21.08
62	4.51	0.73	774	25.46
63	5.23	1.01	799	35.50
64	6.64	2.01	848	70.25

Strand 13: Total Test

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-7.13	2.02	366	70.54
1	-5.69	1.03	416	36.04
2	-4.94	0.75	443	26.14
3	-4.48	0.62	459	21.83
4	-4.14	0.55	471	19.27
5	-3.86	0.50	481	17.53
6	-3.63	0.46	489	16.23
7	-3.43	0.43	496	15.22
8	-3.25	0.41	502	14.40
9	-3.09	0.39	508	13.71
10	-2.94	0.37	513	13.11
11	-2.81	0.36	517	12.60
12	-2.68	0.35	522	12.15
13	-2.57	0.34	526	11.75
14	-2.46	0.33	530	11.40
15	-2.35	0.32	533	11.07
16	-2.26	0.31	537	10.78
17	-2.16	0.30	540	10.52
18	-2.08	0.29	543	10.28
19	-1.99	0.29	546	10.05
20	-1.91	0.28	549	9.85
21	-1.83	0.28	552	9.66
22	-1.76	0.27	554	9.48
23	-1.69	0.27	557	9.32
24	-1.62	0.26	559	9.16
25	-1.55	0.26	562	9.02
26	-1.48	0.25	564	8.89
27	-1.42	0.25	566	8.76
28	-1.36	0.25	568	8.65
29	-1.30	0.24	570	8.54
30	-1.24	0.24	572	8.44
31	-1.18	0.24	574	8.34
32	-1.12	0.24	576	8.25
33	-1.07	0.23	578	8.16
34	-1.02	0.23	580	8.08

35	-0.96	0.23	582	8.01
36	-0.91	0.23	584	7.94
37	-0.86	0.22	586	7.87
38	-0.81	0.22	587	7.81
39	-0.76	0.22	589	7.75
40	-0.71	0.22	591	7.70
41	-0.66	0.22	593	7.65
42	-0.62	0.22	594	7.61
43	-0.57	0.22	596	7.56
44	-0.52	0.21	597	7.52
45	-0.48	0.21	599	7.49
46	-0.43	0.21	601	7.46
47	-0.39	0.21	602	7.42
48	-0.34	0.21	604	7.40
49	-0.30	0.21	605	7.37
50	-0.25	0.21	607	7.35
51	-0.21	0.21	608	7.33
52	-0.17	0.21	610	7.32
53	-0.12	0.21	612	7.30
54	-0.08	0.21	613	7.29
55	-0.03	0.21	615	7.28
56	0.01	0.21	616	7.28
57	0.05	0.21	618	7.27
58	0.10	0.21	619	7.27
59	0.14	0.21	621	7.27
60	0.18	0.21	622	7.28
61	0.22	0.21	624	7.28
62	0.27	0.21	625	7.29
63	0.31	0.21	627	7.30
64	0.36	0.21	628	7.31
65	0.40	0.21	630	7.32
66	0.44	0.21	631	7.34
67	0.49	0.21	633	7.35
68	0.53	0.21	634	7.37
69	0.58	0.21	636	7.39
70	0.62	0.21	637	7.42
71	0.67	0.21	639	7.44
72	0.71	0.21	641	7.47
73	0.76	0.21	642	7.50
74	0.80	0.22	644	7.53
75	0.85	0.22	645	7.56
76	0.90	0.22	647	7.60
77	0.94	0.22	649	7.63
78	0.99	0.22	650	7.68
79	1.04	0.22	652	7.72
80	1.09	0.22	654	7.76
81	1.14	0.22	656	7.81
82	1.19	0.22	657	7.86
83	1.24	0.23	659	7.92
84	1.29	0.23	661	7.97
85	1.34	0.23	663	8.04
86	1.40	0.23	665	8.10
87	1.45	0.23	666	8.17
88	1.50	0.24	668	8.24

89	1.56	0.24	670	8.32
90	1.62	0.24	672	8.40
91	1.68	0.24	674	8.49
92	1.73	0.25	676	8.58
93	1.80	0.25	679	8.68
94	1.86	0.25	681	8.79
95	1.92	0.25	683	8.91
96	1.99	0.26	685	9.04
97	2.06	0.26	688	9.17
98	2.13	0.27	690	9.32
99	2.20	0.27	693	9.49
100	2.27	0.28	695	9.67
101	2.35	0.28	698	9.86
102	2.43	0.29	701	10.08
103	2.52	0.30	704	10.33
104	2.61	0.30	707	10.59
105	2.70	0.31	710	10.90
106	2.80	0.32	714	11.25
107	2.91	0.33	717	11.65
108	3.02	0.35	722	12.11
109	3.15	0.36	726	12.66
110	3.28	0.38	731	13.31
111	3.44	0.40	736	14.11
112	3.61	0.43	742	15.10
113	3.81	0.47	749	16.40
114	4.06	0.52	758	18.17
115	4.36	0.59	768	20.79
116	4.79	0.72	783	25.22
117	5.50	1.01	808	35.33
118	6.90	2.00	857	70.16

Strand 14: Total Writing

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.47	2.06	424	72.03
1	-3.91	1.11	479	38.73
2	-3.00	0.84	511	29.32
3	-2.40	0.71	532	24.96
4	-1.95	0.63	547	22.13
5	-1.59	0.57	560	20.07
6	-1.29	0.53	571	18.50
7	-1.03	0.49	580	17.30
8	-0.80	0.47	588	16.36
9	-0.59	0.45	595	15.65
10	-0.40	0.43	602	15.10
11	-0.22	0.42	608	14.69
12	-0.04	0.41	614	14.40
13	0.12	0.41	620	14.19
14	0.29	0.40	626	14.06
15	0.45	0.40	631	13.99
16	0.61	0.40	637	13.97
17	0.77	0.40	643	13.98
18	0.93	0.40	648	14.04
19	1.09	0.40	654	14.13

20	1.25	0.41	660	14.26
21	1.42	0.41	665	14.43
22	1.59	0.42	671	14.67
23	1.77	0.43	678	14.98
24	1.96	0.44	684	15.39
25	2.16	0.46	691	15.95
26	2.38	0.48	699	16.72
27	2.62	0.51	707	17.79
28	2.90	0.55	717	19.34
29	3.24	0.62	729	21.75
30	3.70	0.74	745	25.97
31	4.44	1.02	771	35.86
32	5.87	2.01	821	70.41

Table 4.5: High School Raw Score to Scale Score Conversion Tables
by Strand

Strand 1: Listening

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.65	2.09	396	73.08
1	-4.99	1.17	454	40.97
2	-3.93	0.93	491	32.64
3	-3.15	0.83	518	29.17
4	-2.51	0.77	540	26.95
5	-1.96	0.72	560	25.15
6	-1.48	0.67	577	23.62
7	-1.05	0.64	592	22.33
8	-0.66	0.61	605	21.29
9	-0.30	0.59	618	20.49
10	0.03	0.57	629	19.92
11	0.35	0.56	641	19.55
12	0.66	0.55	651	19.40
13	0.96	0.56	662	19.46
14	1.28	0.57	673	19.79
15	1.61	0.58	685	20.45
16	1.97	0.62	697	21.61
17	2.38	0.68	712	23.63
18	2.90	0.78	730	27.43
19	3.71	1.05	758	36.83
20	5.17	2.03	809	70.89

Strand 2: Writing Conventions

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.08	2.06	450	72.04
1	-3.52	1.11	505	38.85
2	-2.60	0.85	537	29.65
3	-1.99	0.73	559	25.53
4	-1.51	0.66	576	22.96
5	-1.12	0.60	589	21.15
6	-0.77	0.57	601	19.81
7	-0.47	0.54	612	18.80
8	-0.19	0.52	622	18.05
9	0.06	0.50	631	17.49
10	0.31	0.49	639	17.09
11	0.54	0.48	647	16.84
12	0.77	0.48	655	16.70
13	1.00	0.48	663	16.68
14	1.23	0.48	671	16.78
15	1.46	0.49	679	17.00
16	1.70	0.50	688	17.36
17	1.95	0.51	697	17.89
18	2.22	0.53	706	18.63

19	2.52	0.56	717	19.67
20	2.86	0.61	729	21.18
21	3.27	0.67	743	23.50
22	3.79	0.787	761	27.55
23	4.60	1.06	790	37.07
24	6.08	2.03	841	71.07

Strand 3: Reading

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.72	2.04	428	71.35
1	-4.21	1.08	481	37.76
2	-3.35	0.82	511	28.72
3	-2.77	0.72	532	25.05
4	-2.30	0.66	548	22.94
5	-1.90	0.61	562	21.42
6	-1.55	0.58	574	20.16
7	-1.23	0.54	585	19.05
8	-0.95	0.52	595	18.07
9	-0.70	0.49	604	17.22
10	-0.47	0.47	612	16.50
11	-0.25	0.45	620	15.89
12	-0.05	0.44	627	15.38
13	0.13	0.43	633	14.97
14	0.31	0.42	639	14.63
15	0.48	0.41	645	14.36
16	0.65	0.40	651	14.16
17	0.81	0.40	657	14.02
18	0.97	0.40	662	13.93
19	1.13	0.40	668	13.90
20	1.29	0.40	674	13.92
21	1.45	0.40	679	14.00
22	1.61	0.40	685	14.13
23	1.77	0.41	691	14.33
24	1.94	0.42	696	14.61
25	2.12	0.43	703	14.98
26	2.31	0.44	709	15.45
27	2.51	0.46	716	16.08
28	2.74	0.48	724	16.90
29	2.98	0.51	733	18.02
30	3.27	0.56	743	19.60
31	3.62	0.63	755	22.02
32	4.09	0.75	772	26.23
33	4.84	1.03	798	36.04
34	6.28	2.01	848	70.50

Strand 5: Speaking

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.72	2.03	393	71.00
1	-5.24	1.06	445	36.97
2	-4.43	0.78	473	27.47
3	-3.91	0.67	491	23.43
4	-3.51	0.60	506	21.10
5	-3.18	0.56	517	19.52
6	-2.88	0.52	528	18.35
7	-2.62	0.50	537	17.43
8	-2.39	0.48	545	16.66
9	-2.17	0.46	553	16.00
10	-1.97	0.44	560	15.43
11	-1.78	0.43	566	14.92
12	-1.60	0.41	572	14.48
13	-1.44	0.40	578	14.09
14	-1.28	0.39	584	13.76
15	-1.13	0.39	589	13.50
16	-0.98	0.38	594	13.31
17	-0.84	0.38	599	13.19
18	-0.69	0.38	604	13.15
19	-0.55	0.38	609	13.18
20	-0.41	0.38	614	13.30
21	-0.26	0.39	619	13.49
22	-0.11	0.39	624	13.76
23	0.05	0.40	630	14.09
24	0.21	0.41	636	14.50
25	0.39	0.43	642	15.00
26	0.58	0.45	649	15.60
27	0.79	0.47	656	16.34
28	1.02	0.49	664	17.26
29	1.28	0.53	673	18.46
30	1.58	0.57	684	20.10
31	1.95	0.64	697	22.56
32	2.44	0.76	714	26.77
33	3.22	1.04	741	36.51
34	4.67	2.02	792	70.76

Strand 10: Comprehension (Listening+Reading or Listening+Prereading)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-7.01	2.05	383	71.66
1	-5.49	1.09	436	38.01
2	-4.62	0.81	467	28.49
3	-4.06	0.70	486	24.35
4	-3.63	0.63	502	21.91
5	-3.26	0.58	514	20.29
6	-2.95	0.55	525	19.10
7	-2.66	0.52	535	18.19
8	-2.41	0.50	544	17.44
9	-2.17	0.48	553	16.79
10	-1.94	0.46	560	16.22
11	-1.74	0.45	568	15.70
12	-1.54	0.43	574	15.21
13	-1.36	0.42	581	14.76
14	-1.19	0.41	587	14.34
15	-1.02	0.40	593	13.95
16	-0.87	0.39	598	13.59
17	-0.72	0.38	603	13.26
18	-0.58	0.37	608	12.96
19	-0.45	0.36	613	12.69
20	-0.32	0.36	617	12.45
21	-0.19	0.35	622	12.23
22	-0.07	0.34	626	12.03
23	0.04	0.34	630	11.86
24	0.16	0.33	634	11.71
25	0.27	0.33	638	11.59
26	0.38	0.33	642	11.48
27	0.48	0.33	645	11.39
28	0.59	0.32	649	11.32
29	0.69	0.32	653	11.26
30	0.79	0.32	656	11.22
31	0.90	0.32	660	11.21
32	1.00	0.32	663	11.21
33	1.10	0.32	667	11.23
34	1.21	0.32	671	11.27
35	1.31	0.32	674	11.32
36	1.42	0.33	678	11.40
37	1.52	0.33	682	11.51
38	1.63	0.33	686	11.63
39	1.74	0.34	689	11.79
40	1.86	0.34	693	11.98
41	1.98	0.35	698	12.21
42	2.10	0.36	702	12.48
43	2.23	0.37	707	12.81
44	2.37	0.38	711	13.20
45	2.52	0.39	717	13.67
46	2.68	0.41	722	14.25
47	2.85	0.43	728	14.97

48	3.05	0.45	735	15.89
49	3.27	0.49	743	17.11
50	3.53	0.54	752	18.80
51	3.85	0.61	763	21.33
52	4.30	0.73	779	25.66
53	5.03	1.02	804	35.65
54	6.44	2.01	854	70.32

Strand 12: Academic (Writing Conventions+Reading+Writing or Prereading+Prewriting)

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-6.22	2.02	411	70.74
1	-4.77	1.04	461	36.46
2	-3.99	0.77	489	26.78
3	-3.50	0.65	506	22.63
4	-3.13	0.58	519	20.21
5	-2.82	0.53	530	18.57
6	-2.56	0.50	539	17.35
7	-2.33	0.47	547	16.37
8	-2.12	0.44	554	15.57
9	-1.93	0.43	561	14.88
10	-1.76	0.41	567	14.28
11	-1.60	0.39	572	13.75
12	-1.45	0.38	578	13.29
13	-1.31	0.37	583	12.88
14	-1.18	0.36	587	12.52
15	-1.05	0.35	592	12.21
16	-0.93	0.34	596	11.93
17	-0.82	0.33	600	11.69
18	-0.71	0.33	604	11.49
19	-0.60	0.32	607	11.31
20	-0.50	0.32	611	11.15
21	-0.40	0.31	614	11.01
22	-0.30	0.31	618	10.89
23	-0.21	0.31	621	10.78
24	-0.11	0.31	624	10.68
25	-0.02	0.30	628	10.59
26	0.07	0.30	631	10.51
27	0.16	0.30	634	10.44
28	0.25	0.30	637	10.38
29	0.33	0.29	640	10.32
30	0.42	0.29	643	10.27
31	0.51	0.29	646	10.23
32	0.59	0.29	649	10.20
33	0.68	0.29	652	10.17
34	0.76	0.29	655	10.15
35	0.84	0.29	658	10.14
36	0.93	0.29	661	10.13
37	1.01	0.29	664	10.14
38	1.10	0.29	667	10.15
39	1.18	0.29	670	10.17
40	1.27	0.29	673	10.21
41	1.35	0.29	676	10.25
42	1.44	0.29	679	10.30
43	1.52	0.30	682	10.37
44	1.61	0.30	685	10.44
45	1.70	0.30	688	10.54
46	1.79	0.30	691	10.64
47	1.89	0.31	694	10.77
48	1.98	0.31	698	10.91
49	2.08	0.32	701	11.06
50	2.18	0.32	705	11.25

51	2.29	0.33	709	11.46
52	2.40	0.33	712	11.69
53	2.51	0.34	716	11.96
54	2.63	0.35	721	12.28
55	2.76	0.36	725	12.65
56	2.89	0.37	730	13.07
57	3.04	0.39	735	13.58
58	3.20	0.41	740	14.19
59	3.37	0.43	746	14.94
60	3.56	0.45	753	15.89
61	3.78	0.49	761	17.13
62	4.05	0.54	770	18.84
63	4.37	0.61	782	21.38
64	4.82	0.74	797	25.73
65	5.55	1.02	823	35.70
66	6.97	2.01	872	70.33

Strand 13: Total Test

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-7.68	2.02	360	70.63
1	-6.24	1.03	410	36.17
2	-5.48	0.75	436	26.29
3	-5.02	0.63	453	21.98
4	-4.67	0.56	465	19.43
5	-4.39	0.51	475	17.71
6	-4.15	0.47	483	16.45
7	-3.94	0.44	490	15.48
8	-3.76	0.42	497	14.71
9	-3.59	0.40	503	14.07
10	-3.43	0.39	508	13.52
11	-3.29	0.37	513	13.06
12	-3.16	0.36	518	12.66
13	-3.03	0.35	522	12.30
14	-2.91	0.34	527	11.98
15	-2.79	0.33	531	11.69
16	-2.68	0.33	534	11.42
17	-2.58	0.32	538	11.18
18	-2.48	0.31	542	10.95
19	-2.38	0.31	545	10.74
20	-2.29	0.30	548	10.54
21	-2.20	0.30	551	10.35
22	-2.12	0.29	554	10.18
23	-2.03	0.29	557	10.01
24	-1.95	0.28	560	9.85
25	-1.88	0.28	563	9.70
26	-1.80	0.27	565	9.56
27	-1.73	0.27	568	9.42
28	-1.65	0.27	571	9.29
29	-1.59	0.26	573	9.17
30	-1.52	0.26	575	9.05
31	-1.45	0.26	578	8.94
32	-1.39	0.25	580	8.83

33	-1.32	0.25	582	8.73
34	-1.26	0.25	584	8.64
35	-1.20	0.24	586	8.55
36	-1.14	0.24	588	8.47
37	-1.09	0.24	590	8.39
38	-1.03	0.24	592	8.32
39	-0.97	0.24	594	8.25
40	-0.92	0.23	596	8.19
41	-0.86	0.23	598	8.14
42	-0.81	0.23	600	8.09
43	-0.76	0.23	602	8.04
44	-0.70	0.23	604	8.00
45	-0.65	0.23	606	7.96
46	-0.60	0.23	607	7.93
47	-0.55	0.23	609	7.90
48	-0.50	0.22	611	7.87
49	-0.45	0.22	613	7.85
50	-0.40	0.22	615	7.83
51	-0.35	0.22	616	7.81
52	-0.30	0.22	618	7.80
53	-0.25	0.22	620	7.78
54	-0.20	0.22	621	7.77
55	-0.15	0.22	623	7.77
56	-0.10	0.22	625	7.76
57	-0.05	0.22	627	7.75
58	0.00	0.22	628	7.75
59	0.05	0.22	630	7.75
60	0.10	0.22	632	7.75
61	0.14	0.22	633	7.75
62	0.19	0.22	635	7.75
63	0.24	0.22	637	7.75
64	0.29	0.22	639	7.75
65	0.34	0.22	640	7.76
66	0.39	0.22	642	7.76
67	0.44	0.22	644	7.77
68	0.49	0.22	646	7.78
69	0.54	0.22	647	7.79
70	0.59	0.22	649	7.80
71	0.64	0.22	651	7.81
72	0.69	0.22	652	7.83
73	0.74	0.22	654	7.84
74	0.79	0.22	656	7.86
75	0.84	0.23	658	7.88
76	0.89	0.23	660	7.90
77	0.94	0.23	661	7.92
78	0.99	0.23	663	7.95
79	1.04	0.23	665	7.98
80	1.10	0.23	667	8.01
81	1.15	0.23	669	8.04
82	1.20	0.23	670	8.08
83	1.25	0.23	672	8.12
84	1.31	0.23	674	8.16
85	1.36	0.23	676	8.21
86	1.42	0.24	678	8.26

87	1.47	0.24	680	8.31
88	1.53	0.24	682	8.37
89	1.59	0.24	684	8.44
90	1.65	0.24	686	8.50
91	1.71	0.25	688	8.58
92	1.77	0.25	690	8.66
93	1.83	0.25	692	8.74
94	1.89	0.25	695	8.83
95	1.96	0.26	697	8.93
96	2.02	0.26	699	9.04
97	2.09	0.26	702	9.16
98	2.16	0.27	704	9.29
99	2.23	0.27	707	9.43
100	2.31	0.27	709	9.58
101	2.38	0.28	712	9.74
102	2.46	0.28	715	9.92
103	2.54	0.29	717	10.12
104	2.63	0.30	720	10.35
105	2.72	0.30	724	10.59
106	2.81	0.31	727	10.86
107	2.91	0.32	730	11.17
108	3.02	0.33	734	11.53
109	3.13	0.34	738	11.92
110	3.25	0.35	742	12.39
111	3.38	0.37	747	12.93
112	3.52	0.39	752	13.58
113	3.68	0.41	757	14.37
114	3.86	0.44	764	15.36
115	4.07	0.48	771	16.65
116	4.32	0.53	780	18.40
117	4.63	0.60	791	21.00
118	5.07	0.73	806	25.40
119	5.79	1.01	831	35.48
120	7.19	2.01	880	70.23

Strand 14: Total Writing

SCORE	MEASURE	S.E.	SS	SE(SS)
0	-5.23	2.04	445	71.52
1	-3.72	1.08	498	37.71
2	-2.87	0.80	528	27.99
3	-2.34	0.67	547	23.57
4	-1.94	0.60	561	20.85
5	-1.61	0.54	572	18.99
6	-1.34	0.50	581	17.66
7	-1.10	0.48	590	16.71
8	-0.88	0.46	598	16.04
9	-0.68	0.45	605	15.59
10	-0.48	0.44	611	15.30
11	-0.30	0.43	618	15.12
12	-0.11	0.43	625	15.02
13	0.07	0.43	631	14.96
14	0.26	0.43	637	14.93

15	0.44	0.43	644	14.92
16	0.62	0.43	650	14.92
17	0.80	0.43	656	14.96
18	0.98	0.43	663	15.02
19	1.17	0.43	669	15.12
20	1.36	0.44	676	15.27
21	1.55	0.44	683	15.48
22	1.75	0.45	690	15.76
23	1.96	0.46	697	16.13
24	2.18	0.47	705	16.60
25	2.41	0.49	713	17.21
26	2.66	0.51	722	18.01
27	2.94	0.55	731	19.09
28	3.26	0.59	743	20.62
29	3.65	0.66	756	22.94
30	4.15	0.77	774	27.01
31	4.94	1.05	801	36.62
32	6.39	2.02	852	70.82

5. ADMINISTRATION RESULTS

This section contains the results of the VA SELP 2005 administration. Analyses are provided for all the reporting strands. The following are the reporting strands:

- Listening
- Prereading (only for Kindergarten and 1st Grade)
- Prewriting (only for Kindergarten and 1st Grade)
- Writing Conventions
- Reading
- Speaking
- Comprehension (Listening + Reading)
- Academic (Writing Conventions + Reading + Writing)
- Total Writing (Writing Conventions + OE Writing)
- Total Composite

Table 5.1 shows the percentages of students in each of the proficiency categories by grades. The table also provides the total N-counts corresponding to the proficiency categories.

Table 5.2 provides the reliabilities and scale score descriptive statistics by grades. It includes the following information:

- Number of items
- Number of students
- Means and standard deviations in scale scores
- *Kuder-Richardson Formula 20* (KR20) internal consistency reliability estimate
- Standard error of measurement
- Mean raw score as a proportion of the maximum obtainable score
- Conditional standard errors of measurement for the Monitor cut scores only

Table 5.1: Percentage of Students in each Performance Level

Kindergarten

Subtests	N-Count	Performance Levels		
		1	2	Monitor
Listening	9498	5.10	94.90	
PreWriting	9693	5.16	94.84	
PreReading	9693	9.90	90.10	
Speaking	9498	10.55	89.45	
Comprehension	9498	8.46	91.54	
Academic	195	4.62	49.23	46.15
Total Composite Score	9498	7.65	69.31	23.04

1st Grade

Subtests	N-Count	Performance Levels		
		1	2	Monitor
Listening	7630	4.39	95.61	
PreWriting	8264	3.36	96.64	
PreReading	8264	4.51	95.49	
Speaking	7630	6.29	93.71	
Comprehension	7630	5.24	94.76	
Academic	634	1.42	6.62	91.96
Total Composite Score	7630	5.37	40.63	54.00

2nd Grade

Subtests	N-Count	Performance Levels			
		1	2	3	Monitor
Listening	6557	7.11	30.64	62.25	
Writing Conventions	7613	8.16	20.18	71.67	
Reading	7613	11.68	51.16	37.16	
Speaking	6557	8.51	27.92	63.57	
Comprehension	6557	7.37	46.01	46.62	
Academic	1056	2.75	35.98	54.36	6.91
Total Writing	7613	10.40	62.54	27.06	
Total Composite Score	6557	7.84	35.69	50.08	6.39

3rd Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	6061	10.01	18.66	28.82	42.50	
Writing Conventions	7222	9.28	14.26	40.83	35.63	
Reading	9119	8.89	30.77	31.20	29.14	
Speaking	6061	10.92	6.30	12.87	69.91	
Comprehension	6061	5.11	39.43	36.13	19.32	
Academic	1161	2.67	21.27	39.10	29.80	7.15
Total Writing	7222	11.38	36.13	31.81	20.69	
Total Composite Score	6061	7.70	25.34	43.85	21.50	1.60

4th Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	5515	11.26	10.84	37.97	39.93	
Writing Conventions	6417	8.17	11.86	30.12	49.85	
Reading	6581	11.55	22.99	32.94	32.52	
Speaking	5515	11.10	5.08	16.03	67.80	
Comprehension	5515	7.02	30.05	39.84	23.10	
Academic	902	2.33	12.75	34.70	31.60	18.63
Total Writing	6417	9.29	23.28	32.83	34.60	
Total Composite Score	5515	11.21	15.97	40.20	27.25	5.37

5th Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	4873	13.28	10.69	43.75	32.28	
Writing Conventions	5755	8.11	6.41	21.74	63.74	
Reading	7104	9.32	17.30	33.31	40.08	
Speaking	4873	12.00	6.63	12.62	68.75	
Comprehension	4873	10.57	21.12	38.79	29.53	
Academic	882	3.17	7.71	26.53	36.85	25.74
Total Writing	5755	9.05	19.03	34.07	37.85	
Total Composite Score	4873	13.38	13.11	33.80	29.84	9.87

6th Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	4067	15.52	11.80	35.46	37.23	
Writing Conventions	5012	7.62	8.78	28.07	55.53	
Reading	5023	10.99	18.40	26.56	44.06	
Speaking	4067	14.88	2.80	9.59	72.73	
Comprehension	4067	10.89	26.26	28.28	34.57	
Academic	945	1.80	6.56	27.83	41.59	22.22
Total Writing	5012	6.05	13.13	45.83	35.00	
Total Composite Score	4067	8.48	18.49	26.65	37.01	9.37

7th Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	3616	19.88	18.78	41.57	19.77	
Writing Conventions	4527	10.43	9.15	29.14	51.29	
Reading	4528	11.70	18.00	26.21	44.08	
Speaking	3616	18.56	5.28	8.99	67.17	
Comprehension	3616	13.22	31.08	24.09	31.61	
Academic	911	2.09	5.38	23.38	35.57	33.59
Total Writing	4527	8.68	13.23	45.59	32.49	
Total Composite Score	3616	12.22	22.48	26.08	30.20	9.02

8th Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	3279	23.27	16.68	42.09	17.96	
Writing Conventions	4051	11.13	15.08	29.20	44.58	
Reading	4815	10.70	20.15	22.58	46.58	
Speaking	3279	19.09	7.69	11.56	61.67	
Comprehension	3279	15.07	34.95	21.38	28.61	
Academic	772	1.81	5.31	15.67	40.03	37.18
Total Writing	4051	10.29	17.23	33.42	39.05	
Total Composite Score	3279	16.19	22.84	24.95	27.29	8.72

9th Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	4478	33.12	24.36	25.12	17.40	
Writing Conventions	5113	28.54	30.24	19.64	21.59	
Reading	5113	29.59	23.16	18.36	28.89	
Speaking	4478	30.59	12.28	11.05	46.07	
Comprehension	4478	30.10	35.51	20.84	13.56	
Academic	635	5.67	16.85	32.28	34.33	10.87
Total Writing	5113	30.82	33.85	25.76	9.56	
Total Composite Score	4478	33.21	28.99	22.11	13.80	1.90

10th Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	3217	27.35	32.17	18.84	21.64	
Writing Conventions	3798	28.28	36.41	22.91	12.40	
Reading	3798	16.98	27.78	17.01	38.23	
Speaking	3217	26.61	14.02	12.34	47.03	
Comprehension	3217	17.47	47.12	17.72	17.69	
Academic	581	7.75	18.59	32.70	32.70	8.26
Total Writing	3798	26.09	42.21	18.88	12.82	
Total Composite Score	3217	26.08	34.85	23.62	13.83	1.62

11th Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	2905	26.71	40.79	20.17	12.32	
Writing Conventions	3509	28.13	50.87	12.28	8.72	
Reading	3509	12.03	33.51	13.42	41.04	
Speaking	2905	26.47	13.73	8.23	51.57	
Comprehension	2905	14.35	50.40	16.28	18.97	
Academic	604	9.77	32.28	28.97	26.82	2.15
Total Writing	3509	28.93	49.64	10.83	10.60	
Total Composite Score	2905	24.48	39.28	22.69	11.98	1.58

12th Grade

Subtests	N-Count	Performance Levels				
		1	2	3	4	Monitor
Listening	1186	51.69	30.27	7.67	10.37	
Writing Conventions	1901	35.24	44.08	14.83	5.84	
Reading	1901	12.20	28.67	7.26	51.87	
Speaking	1186	53.54	10.20	0.00	36.26	
Comprehension	1186	21.25	56.07	9.78	12.90	
Academic	715	10.35	41.40	26.57	19.86	1.82
Total Writing	1901	30.46	49.24	12.15	8.15	
Total Composite Score	1186	47.47	31.45	15.68	4.97	0.42

Table 5.2: Reliabilities and Scale Score Descriptive Statistics by Grade and Strand

Kindergarten

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	9498	573.27	61.58	0.81	26.56	0.72	
Prereading	20	9693	598.22	66.95	0.87	24.52	0.67	
Prewriting	20	9693	621.55	67.41	0.87	24.50	0.77	
Speaking	16	9498	592.86	58.43	0.89	19.75	0.74	
Comprehension	40	9498	569.13	56.75	0.90	17.77	0.70	
Academic	40	195	635.83	62.99	0.92	17.33	0.81	18.07
Total	76	9498	578.98	49.76	0.94	12.35	0.73	11.35

1st grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	7633	595.46	61.67	0.83	25.59	0.78	
Prereading	20	8264	667.27	64.46	0.89	21.65	0.88	
Prewriting	20	8264	677.93	66.06	0.91	19.80	0.91	
Speaking	16	7633	615.20	57.39	0.86	21.19	0.83	
Comprehension	40	7633	611.32	53.93	0.90	16.84	0.83	
Academic	40	634	709.51	54.26	0.94	13.61	0.95	19.68
Total	76	7633	613.28	47.82	0.94	11.94	0.84	12.17

2nd grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	6557	610.05	79.12	0.91	24.31	0.80	
Writing								
Conventions	20	7613	635.94	50.16	0.83	20.41	0.77	
Reading	20	7614	635.22	46.78	0.79	21.43	0.75	
Speaking	16	6557	619.20	72.46	0.87	25.65	0.83	
Comprehension	40	6557	620.70	48.72	0.88	17.16	0.77	
Academic	42	1056	650.35	32.83	0.90	10.55	0.81	21.32
Total Writing	22	7613	628.16	40.87	0.85	16.00	0.71	
Total	78	6557	618.34	43.31	0.93	11.56	0.77	13.24

3rd grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	6065	631.61	70.81	0.89	23.21	0.67	
Writing								
Conventions	20	7226	651.07	60.90	0.86	22.64	0.77	
Reading	26	9123	653.51	54.78	0.85	20.92	0.62	
Speaking	16	6065	645.49	86.75	0.90	27.72	0.81	
Comprehension	46	6065	639.67	47.32	0.89	15.47	0.64	
Academic	48	1161	672.80	43.74	0.91	12.78	0.76	20.93
Total Writing	22	7226	645.26	55.44	0.87	19.90	0.70	
Total	84	6065	637.34	47.27	0.94	11.42	0.70	14.61

4th grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	5516	642.76	71.85	0.90	22.46	0.71	
Writing								
Conventions	20	6417	667.88	61.64	0.87	22.27	0.82	
Reading	26	6581	671.80	56.36	0.86	20.86	0.71	
Speaking	16	5516	651.48	86.51	0.90	27.57	0.82	
Comprehension	46	5516	655.42	47.62	0.90	14.96	0.70	
Academic	48	902	691.79	49.29	0.92	13.76	0.81	20.93
Total Writing	22	6417	663.98	60.05	0.78	27.85	0.75	
Total	84	5516	651.06	48.18	0.93	12.39	0.75	14.61

5th grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	4873	649.40	76.75	0.92	21.97	0.73	
Writing								
Conventions	20	5755	681.67	65.31	0.90	21.16	0.85	
Reading	26	7104	686.96	63.01	0.88	21.61	0.73	
Speaking	16	4873	652.55	89.49	0.91	27.52	0.82	
Comprehension	46	4873	666.95	53.58	0.92	15.30	0.74	
Academic	48	882	711.62	56.30	0.93	14.65	0.86	23.59
Total Writing	22	5755	683.50	68.17	0.89	23.02	0.79	
Total	84	4873	661.12	54.73	0.95	11.90	0.78	15.49

6th grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	4090	643.92	93.44	0.96	18.39	0.68	
Writing								
Conventions	24	5036	684.42	60.82	0.88	21.24	0.73	
Reading	32	5071	698.76	63.82	0.91	19.05	0.74	
Speaking	16	4090	667.29	104.84	0.93	27.80	0.78	
Comprehension	52	4090	672.73	53.60	0.92	14.88	0.71	
Academic	58	946	710.33	45.30	0.94	10.88	0.82	16.78
Total Writing	26	5036	683.08	54.49	0.89	17.82	0.73	
Total	94	4090	669.00	53.28	0.96	10.67	0.73	12.11

7th grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	3616	639.04	97.91	0.93	25.36	0.67	
Writing								
Conventions	24	4527	691.81	62.42	0.89	20.99	0.75	
Reading	32	4528	706.55	67.36	0.92	19.15	0.76	
Speaking	16	3616	658.31	109.20	0.94	26.54	0.75	
Comprehension	52	3616	674.62	53.36	0.92	14.85	0.71	
Academic	58	911	718.67	47.10	0.95	10.78	0.85	16.78
Total Writing	26	4527	689.73	55.02	0.90	17.51	0.74	
Total	94	3616	669.53	53.11	0.96	10.44	0.72	12.66

8th grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	3279	634.81	101.40	0.94	25.40	0.66	
Writing								
Conventions	24	4051	697.25	64.99	0.89	21.32	0.77	
Reading	32	4815	706.78	69.64	0.92	19.64	0.74	
Speaking	16	3279	655.18	111.07	0.94	27.01	0.74	
Comprehension	52	3279	676.71	54.25	0.92	15.05	0.72	
Academic	58	772	731.06	56.07	0.95	12.56	0.88	18.50
Total Writing	26	4051	695.66	58.94	0.90	18.29	0.76	
Total	94	3279	671.06	53.60	0.96	10.55	0.73	13.31

9th grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	4492	624.66	104.64	0.92	30.24	0.55	
Writing								
Conventions	24	5127	662.90	71.56	0.89	24.17	0.56	
Reading	34	5146	677.95	76.81	0.94	19.47	0.62	
Speaking	16	4492	625.84	123.63	0.94	29.92	0.63	
Comprehension	54	4492	654.61	70.08	0.94	17.19	0.58	
Academic	60	635	707.30	54.35	0.95	11.94	0.76	15.89
Total Writing	26	5127	658.37	66.34	0.89	21.53	0.55	
Total	96	4492	645.48	67.18	0.97	12.50	0.58	11.92

10th grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	3217	624.07	118.79	0.94	29.60	0.57	
Writing								
Conventions	24	3798	674.53	73.06	0.89	24.30	0.61	
Reading	34	3802	694.37	75.67	0.93	19.86	0.69	
Speaking	16	3217	626.48	135.25	0.90	42.82	0.65	
Comprehension	54	3217	666.70	68.51	0.93	18.07	0.63	
Academic	60	581	705.19	61.47	0.95	13.99	0.75	17.13
Total Writing	26	3798	671.54	65.50	0.89	21.73	0.61	
Total	96	3217	655.43	68.85	0.95	14.78	0.63	12.39

11th grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	2905	619.33	125.37	0.95	29.22	0.56	
Writing								
Conventions	24	3509	677.55	78.18	0.90	24.95	0.63	
Reading	34	3516	699.04	77.04	0.93	20.42	0.71	
Speaking	16	2905	625.14	139.74	0.88	49.32	0.66	
Comprehension	54	2905	668.80	73.78	0.94	18.76	0.64	
Academic	60	604	701.78	65.93	0.95	15.13	0.74	21.38
Total Writing	26	3509	676.35	68.66	0.90	22.00	0.63	
Total	96	2905	658.66	72.61	0.95	15.94	0.64	13.58

12th grade

Subtest	# Items	N	Mean	SD	KR20	SEM	Raw Score Proportion	Monitor Conditional SEM
Listening	20	1186	546.10	151.10	0.97	24.01	0.38	
Writing								
Conventions	24	1901	677.70	94.10	0.93	24.48	0.64	
Reading	34	1903	702.34	93.10	0.95	19.91	0.73	
Speaking	16	1186	546.62	166.78	0.87	60.30	0.43	
Comprehension	54	1186	647.63	95.06	0.96	20.15	0.58	
Academic	60	715	697.77	74.28	0.96	14.02	0.73	25.73
Total Writing	26	1901	675.14	81.54	0.93	22.19	0.63	
Total	96	1186	629.94	91.49	0.96	18.17	0.55	14.37